AMERICAN VETERINARY REVIEW.

AUGUST, 1903.

EDITORIAL.

EUROPEAN CHRONICLES.

PARIS, June 20, 1903.

SEROTHERAPY AND FOOT-AND-MOUTH DISEASE.—In my chronicle of last month I brought to the attention of our readers the results obtained by Prof. Nocard in his researches on that subject, and mentioned how the learned French bacteriologist had reached a certain point, which, if yet far from the one he is searching, was at any rate a success, as it permitted him to give immunity to animals by the injection of a small quantity of his vaccine matter. But unfortunately the immunity does not last. If after the operation, cattle can be mixed with diseased individuals or exposed to contagion in any form, without becoming infected themselves, it must be remembered that this immunity exists only for fifteen days, and that after that time they are liable to become affected as if they had not been vaccinated. To one certain point of view, this result is great, but it is not yet what the true prophylaxy of foot-and-mouth disease demands.

The work which is carried out at Alfort by Profs. Nocard and Roux and their assistants is still going on, and we may hear more from them later on. But others are also engaged in the same pursuits, and among them Professor Löffler, the celebrated German bacteriologist, from whom many important facts have been made known, who himself has for a long time been engaged in the same work, and who has recently made several reports, extracts of which I find in the *Revue Générale de Médecine*

Vétérinaire, which itself takes it from the *Berliner Thierarztliche Wochenschrift.* I hope in reproducing them here I do not trespass on the work of my friend, Dr. Eichhorn.

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The reports were made to the German Government and are resumed as follows:

The mixture of $\frac{2}{10}$ of c.c. of aphthous lymph, made old and inactive by being kept in the freezing chamber, with $\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$ of c.c. of fresh lymph heated at 60° for five minutes, is harmless in bovines when given in intravenous injections: those animals then gain a certain immunity which protects them from natural contagion or from the serious forms of the disease.

A large dose of virus destroys this acquired immunity; which, however, is generally sufficient against the ordinary conditions of spontaneous contagion.

Yet this method of immunization is not practicable, as a certain lapse of times must be allowed between the injection and the realization of the refractory condition; and, besides, the quantity of lymph necessary for each bovine is relatively large and the cost becomes too great. The immunity granted is of short duration and would not protect an animal during the course of an epizoöty.

Antiaphthous serotherapy, very efficacious for swine and sheep, is also applicable to bovines.

The serum of cattle treated with increasing doses of aphthous lymph protects surely an animal of the same species if it is injected in doses of from 100 to 200 c.c. as soon as the first signs of hyperthermia appear. This same serum given in doses of 50 and of 20 c.c. does not prevent the appearance of aphthæ in the mouth or the feet, but gives to the disease a rapid and mild evolution.

The serum thus obtained, used in doses of 10 to 20 c.c., does not protect surely from a contamination posterior to the injection.

Horses treated with increasing doses of aphthous lymph furnish more rapidly than cattle a serum active for young

pigs; it is for those animals more efficacious than for cattle.

Serum of horses is not as active for cattle as it is for swine and sheep.

The mixture of the serum of the horse which has been treated with the serum of aphthous cattle possesses preventive qualities more marked than the serum used alone; but this mixture must be employed in some quantity (100 c.c.).

Aphthous lymph obtained by successive passages in young pigs grants a solid immunity to cattle whose serum is active in doses of 75 to 100 c.c.; the passive immunity, conferred by this serum, lasts for three weeks at least. In 50 c.c. it gives an uncertain immunity; with 20 c.c. only half of the subjects treated will resist contagion.

One dose of 100 c.c. injected to a bovine will protect it against the inoculation of $\frac{1}{100}$, $\frac{1}{50}$, $\frac{1}{20}$, $\frac{1}{10}$, $\frac{2}{10}$, $\frac{3}{10}$, c.c. of virulent lymph, made 24 hours after; then this serum at the dose of 100 c.c. is preventive against about $\frac{2}{10}$ of virus; but as a minimum quantity of this virus, $\frac{1}{2000}$ to $\frac{1}{40000}$ c.c. gives the disease, it results that 100 c.c. of serum immunize against about 4000 pathogenous doses of virus.

The natural infection is generally produced by very small quantities of lymph; therefore the dose of 100 c.c. of serum is greatly sufficient in an infested centre. This dose of 100 c.c. may prove too weak under some special circumstances, when animals are exposed to take in enormous quantities of virus, such as when this is thrown on the feed or in the water by the sick, as when animals take their meals in a common manger.

The dose of 20 c.c. of serum is sufficient to protect against $\frac{1}{20}$ c.c. of lymph, injected in the veins 24 hours later. This dose is efficacious in practice, if healthy animals placed in infected stables are kept in such condition that the possibility of absorbing large quantities of virus is guarded against.

Bovines, already contaminated at the time of the treatment with the serum, are not all protected even with doses of 100 and 200 c.c.; but, in this case, the disease is less severe than with the animals not treated.

The experiments of Löffler point out precisely the indications of serotherapy for foot-and-mouth disease. The method is useful for bovines exposed for sale in known infected markets, and for animals of suspicious origin, destined to fill up stables free from the disease.

The production of the lymph on young pigs of Yorkshire breeds is easy. A pig weighing 15 to 20 kilog. is inoculated every five or six days with $\frac{1}{15}$ c.c. of lymph; the first symptoms appear on the second or third day; the virus is secured and an injection of 10 c.c. of antiaphthous serum is made. The mortality of the pigs is very small.

The time necessary to obtain an active serum in horses or cattle is between two and a half and three months; this serum can be used when 100 c.c. protect against $\frac{1}{10}$ c.c. of lymph inoculated 24 hours after to a bovine weighing between 200 and 250 kilog.

The phenicated serum can be kept for from four to eight months.

Pure lymph is obtained by filtration. The infection is realized by injection into the bloodvessels, muscles or peritoneum. Made in the skin or subcutaneously it gives no result.

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In conclusion, Prof. Löffler exposes the great difficulties he has had to surmount in order to realize the results he has obtained, viz.: the culture of the aphthous lymph in the body of the living young pig. But, like many, and like Prof. Nocard, all the attempts at artificial cultures of the mysterious agent of foot-and-mouth disease have also failed with him. Nevertheless, a great point has been realized by him; the question of the different serums is clearly defined: the equine serum must be reserved for sheep and swine, while the bovine is the one proper for cattle.

* * *

WAR ON TUBERCULOSIS.—The fight is every day getting warmer, and from every direction we hear of researches, of societies, sanatoriums, dispensaries, etc., all having for object the

war against tuberculosis and to relieve those who suffer with it. But, while many are earnest in their efforts, and are firm believers, there are others, in the medical profession, who do not attach much faith to the means that are suggested, laugh and ridicule them. In one of the medical papers which I receive, I find editorial remarks which are peculiar and ridicule the whole work.

The writer says: "It is not without fear that I consider this new war started more against the tuberculous individual than against tuberculosis itself, and it is with terror that I consider the obligations which will result from the enforcing of all those measures. According to the new plan, any individual whose sputa contains the bacillus of Koch shall be an outlaw, or, rather, out of social life; he cannot be a bureaucrat, nor a tradesman, he cannot frequent industrial shops, he cannot be a physician, as he would become a carrier of bacilli. He might be, I thought, a letter deliverer, a postman, but it is impossible as long as contagious diseases are transmissible by letters. In other words, the tuberculous are excluded from all careers, from all professions; he is like a wild animal, chased out; even if his physical forces allow him to work as the simplest earth digger, he shall be expelled as *carrier of the death germ.* Society has nothing else to do then: kill all the tuberculous or feed them."

Of course, all this is extravagant, out of place, and ought not to find ventilation through the pen of a medical man, and probably all of that was written because of a proposition which had been made at the last medical congress in Madrid, to the effect that tuberculosis should be made the subject of obligatory measures, which is a question that Denmark is about to take into consideration. Indeed, it is proposed to make the declaration of tuberculosis obligatory, to forbid those affected with it to act as nurses, school teachers and physicians. Other prophylactic measures against the propagation of tuberculosis will be enacted afterwards.

Decidedly, the suggestion made by the author I speak o

is not so bad, when he says, in alluding to the creation of governmental sanatoria: "If ever I find that I hold in myself one bacillus of Koch I shall go and declare myself, rather than to allow myself to carry from door to door 'the germ of death'; I will have the right to ask admission into one sanatorium or a pension from the State." Should this be realized, the time may come when people will simulate tuberculosis to obtain an income.

* * *

BICARBONATE OF SODA IN SURGERY.—The subject is probably not very new, as in numerous publications its use is patronized by many authorities; but what is new is the form in which a French surgeon preconizes its use in the communication which I heard him make before the Société de Médecine et de Chirurgie Pratique. While it is in solution that bicarbonate of soda is generally employed either for washing wounds or in the shape of compresses for wounds of ugly aspect, Dr. Levassort employs the salt in the shape of powder, which he dusts freely over wounds after having carefully packed their cavities with sterilized gauze only. This sort of packing has always been successful with him, and he leaves the dressings some 15 or 20 days without removing them. The only thing he does is to relieve the packing gently, in taking off every two or three days a small quantity of the gauze, carefully pulled off and cut with scissors. Gradually the sides of the wound close together, and when the last of the gauze is removed, one is surprised to find that the work of repair is accomplished. The granulations are red, healthy; a little more gauze can be applied, more bicarbonate is dusted on to activate complete cicatrization, which takes place rapidly.

The author mentioned then a few out of the numerous cases where he had employed this dressing, such as enormous abscess of the breast of two women, a large white tumor of the elbow in a man, a deep abscess of the forearm in a woman, and that of chronic osteomyelitis of the leg of thirty-six years' standing with fistulæ, necrosis, multiple abscesses, which is convalescent.

The method of Dr. L. has been adopted already by many surgeons and its application is gaining advocates daily.

The wonderful result that has been obtained by the author, the simplicity of the application of the dressing, the comparatively little attention and after-care, and, above all, the very low cost of the drug, have made me think that veterinarians might find in their surgery many indications to resort to aseptic dressing with pulverized bicarbonate of soda.

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PREVENTION OF LOCKJAW.—One word now about a new discovery which cannot be without interest for veterinarians, and which I find recorded by my friend Pion, in the *Semaine Vétérinaire*. In a communication made recently by Dr. Roux, the announcement was made of the discovery by Dr. Calmette, of the Institute Pasteur of Lille, by which the prevention of lockjaw is made a great deal easier and more practicable, in that, instead of resorting to injections of serum, which are now so extensively employed, the preserving liquid is dried and applied in the shape of powder: it is the dry extract, which then acts as it would itself. The *modus operandi* is as follows: The powder shall be applied directly on the wound and the microbes will not multiply. Experiments made on guinea-pigs have shown the efficacity of this treatment. None of them took lockjaw. There is, however, a measure which is essential to fulfill, viz., that the powder shall be applied on the wound less than seven hours from the time it has been inflicted. This powder is not injured nor loses any of its virtues if exposed to the heat of summer nor to the light. The new process is no doubt worth trying and will certainly be found of easier application and use than the present method with the syringe and little bottles, both of which are liable to be broken or not to work when wanted.

A. L.

As the Ottawa meeting of the A. V. M. A. occurs on Sept. 1 to 4, that month's issue of the REVIEW will reach its subscrib-

er-members' desks during their absence. In order to be always with them, and to break the monotony of the returning trip, the publishers have arranged to place a copy of the September number in the hands of every one in attendance upon the meeting. It will contain some articles of great value upon live subjects, specially written for the REVIEW, while the regular departments will be filled with material of the kind that is of greatest interest to the profession.

REPORTS OF MEDICAL SOCIETY MEETINGS.

For some time the editors of the REVIEW have endeavored to impress upon the secretaries of the numerous veterinary medical associations of the country in the private correspondence incidental to the conduct of a journal of this character the great opportunities which they possesss for doing a grand service to the cause of veterinary medicine, especially to our literature. The science of pathology is the basis of medical knowledge, and is the outgrowth of clinical experience and investigation. The medical societies are the best and most popular forums for the presentation and discussion of all subjects tending to enlarge and broaden our knowledge. The medical world cannot benefit by these events unless the facts presented at such meetings are given to them through the medium of the press, that they may be placed in the annals of our profession, and thus enter into the construction of the edifice which is being builded by thinking men in all quarters of the globe. The science of medicine knows no nationality; a proven medical proposition belongs to no land; it is common property.

The office of secretary of a veterinary association (whether it be national, state or local) is by long odds the most important and responsible position in connection with it; and, according to the ability, judgment, and energy of the incumbent, much or little can be accomplished for the cause which the association represents.

It is of little moment to the veterinary world who is present

at a meeting of a local society ; whether the minutes of a previous meeting are approved or disapproved ; whether the treasury is full or the coffers empty ; or how any item of purely local interest is disposed of. Such matters are, however, properly a part of the minutes for the benefit and proper conduct of the affairs of the association. But they can be of little benefit to medical literature, and should be abridged by the reporters when given to the press for general reading. They overshadow and obscure the real value of the report. The general reader of medical literature is much concerned, however, in the transactions of every association where scientific work is being done. If a paper presented is of real value it should by all means have as great publicity as facilities will permit, no matter if it is read before the smallest and humblest association, or an international congress of eminent representatives. If in a long thesis a single medical truth is expounded, it should be epitomized by the secretary, if the paper itself is deemed too exhaustive—too plethoric in dictum, and too anæmic in facts. Should the presentation of a paper at a meeting excite interesting and valuable discussion among those present, their remarks should be reproduced in connection with the paper itself or summarized by the reporter. Should a case report of interest be offered, it will be remembered that largely upon the facts procured from such sources rests the foundation of pathological knowledge. If the author has submitted drawings or photographs illustrative of his subject, they should accompany the report, as nothing is so helpful to the reader in elucidating the subject and placing him in possession of a clear understanding of it.

We therefore urge upon our secretaries throughout the country to endeavor to make their reports more reasonable ; to remember that they are reporting the transactions of a scientific society for the eyes of scientific men, and that the less they include of purely local matters and the more of medical facts, the greater credit they will receive from their readers in all quarters of the country where veterinary periodicals are read. A marked improvement is apparent in this direction in recent

years, as may be noted by referring to the files of the REVIEW; but still there is much room for pruning in many cases, and great need of enlarging on the side of the strictly professional aspect of the reports, which cannot be too elaborately reproduced.

THE VETERINARY CONVENTION AT OTTAWA.

In another department of this number of the REVIEW will be found as complete a synopsis of the events scheduled for the approaching meeting of the American Veterinary Medical Association as it was possible to formulate when the forms closed for this issue. It will be the fortieth annual gathering of the National organization and the first one ever held outside of the borders of the United States; but, while the event is unique in this particular, it is by no means an experiment, for we have had sufficient test of the mettle of our Canadian brethren to know to a certainty that we are but going into a new field to strengthen our hold upon the profession of all the Americas. Some of the very best men in the veterinary profession are residents of Canada, a number of whom have not waited for the Association to go among them to awaken their interest and secure their coöperation, but have for several years come to its meetings and given valuable assistance to the programmes.

It is the safest sort of a prediction to prophesy that the fortieth annual event is to be a memorable one, not only because the outline of the programme as published guarantees the assertion, but also for the reason that the visit of the members to the Dominion Capital will be one of the most picturesque and enjoyable that could have been arranged. The standard set by Buffalo, Nashville, Omaha, New York, Detroit, Atlantic City, Minneapolis, has been constantly before the Committee of Arrangements, and it will be their aim to make this double-decade convention greater in all respects than any that have gone into history.

The Association will be a great gainer in character and strength by its invasion of the Land of the Snows, as it will

gather within its fold the very best material of that country—the thinkers, the investigators, the workers, the profession-makers, and if we may take the Canucks who have already affiliated with the Association as samples of what we are likely to get, we may well bless the day when we turned our faces toward the Northland.

So much for the prospects of a grand meeting, and so much for the part our Canadian colleagues will contribute. What will the Old Guard do? Their names are generously sprinkled throughout the programme, and the antedatal indications are that they will flock to the meeting in large numbers from all sections of the country. It is a privilege which every eligible veterinarian should feel proud to avail himself of.

Get ready for Ottawa.

FOOT-AND-MOUTH DISEASE has been officially declared to have been exterminated from the United States, and the British Consul has so notified his government, and it is expected that the restrictions which have been placed upon New England cattle since the invasion of the disease last fall will be speedily removed, and active shipping be resumed. This prompt and intelligent work by our model Bureau of Animal Industry is an object lesson for the world.

THE programme for the thirteenth annual meeting of the New York State Veterinary Medical Society, which will be held at Ithaca, Sept. 15 and 16, is published in the "Society Meetings" department of this number, and a very attracted one it is. If you do or if you do not go to Ottawa, it will well repay you to visit this State meeting.

THE illustrated original paper by Dr. Frank H. Miller, of New York, announced to appear in this issue of the REVIEW, has been held over until the September number, on account of delay in securing the plates.

ORIGINAL ARTICLES.

CYSTICERCI IN WILD RUMINANTS.

By W. Reid Blair, D. V. S., Veterinarian N. Y. Zoological Park.

While the tapeworm in its adult state has been rarely met with among our wild ruminants, its embryo or cystic stage has been of frequent occurrence, causing death in at least two instances.

No parasite with which we deal has a more interesting life history than the tapeworm, occupying as it does the attention of the practitioner of human medicine as well as the veterinarian.

A remarkable fact in connection with the life history of the tapeworm is that the eggs will not develop into mature worms in the body of an animal belonging to the species of the one in which they were produced. It is necessary that they should first enter the body of an animal of a different species and there develop into embryos, and there they remain in a somewhat advanced state of development until their host dies and is consumed by an animal belonging to the species of the original host. They must have a host or bearer and intermediate bearer. In a great majority of cases man and dogs act as hosts, while cattle, pigs, sheep, and deer act as the intermediate bearers.

The anterior part of the tapeworm is narrow, and presents a terminal swelling by which it attaches itself to the mucous membrane of the intestines by means of the suckers and numerous hooklets which nearly all tapeworms possess. This anterior swollen part is distinguished as the scolex, popularly called the head of the tapeworm, but it is mainly its external form which entitles it to this name, as there is no alimentary system. The parasite floating in the digested food of its host absorbs soluble material by its general surface. There is neither vascular nor respiratory system, and the body cavity is represented merely by irregular spaces. All tapeworms are hermaphrodite, and most—if not all—are probably self-fertilizing.

Following the scolex are the segments or proglottides, of which the tapeworm is made up and budded off from the head end, and which contain both male and female generative organs. As these segments or proglottides are pushed by younger interpolated buds further and further from the scolex they become sexually mature, developing complex hermaphrodite reproductive organs. The ova produced in these are fertilized apparently by spermatozoa from the same proglottide. As each segment becomes perfect it produces a vast number of eggs, and finally drops away from the main colony. The ova, or eggs, contained within each segment may be expelled within the host or may not be released until the segment is outside the body.

The proglottides, after separation from the main colony, continue to live for some time independently, and may increase in size considerably if they remain in the body of their host. After it is cast off and reaches the exterior it retains its vital power for a short time, and has been known in some instances to crawl a considerable distance, leaving in its wake a yellowish trail composed of eggs escaping from a rupture in the body wall. The proglottis soon dies, however, and decomposes, the eggs are scattered, but they soon lose their vitality in a dry atmosphere.

The eggs are round or oval in shape, and very small, consisting of a minute ovum embedded in yoke cells, and surrounded by a thin membrane. Unless these eggs are taken into the body of herbivora by drinking contaminated water, or by eating grass or herbage with the eggs deposited on it, they quickly perish.

If a segment is eaten it is digested, and the ova or eggs are liberated, but if the eggs only are eaten the egg membranes are digested by the gastric juices, and the embryo is set free.

Each embryo is provided with six hooklets, and as soon as set free begins to bore its way into the gastric or intestinal vessels by means of its hooks.

MIGRATION OF THE EMBRYO

is said by some to be voluntary, by others to be involuntary;

but when they are once within the vascular channels they are carried along passively, doubtless, until reaching a position where the embryo finds in certain parts of the organism the conditions necessary for its development and growth.

The vesicle gradually becomes a cystic worm by the formation of a hollow ingrowth, which is developed from the walls and projects into the interior of the vesicle. The suckers and circlet of hooklets are formed on the inside and at the bottom of this invagination of the wall of the vesicle. When these hollow ingrowths are evaginated so as to form external appendages of the vesicle they present the form and armature of the cestode head, as well as a more or less developed neck, which presents a number of annulated rings, the first traces of future segmentation.

The whole embryo now presents the form of a bladder or vesicle, with which it is connected at one point, a process having all the characters of the head and neck of the mature tapeworm, the head and neck constituting the scolex, while the cyst in which the bladder worm lies is known as an hydatid cyst.

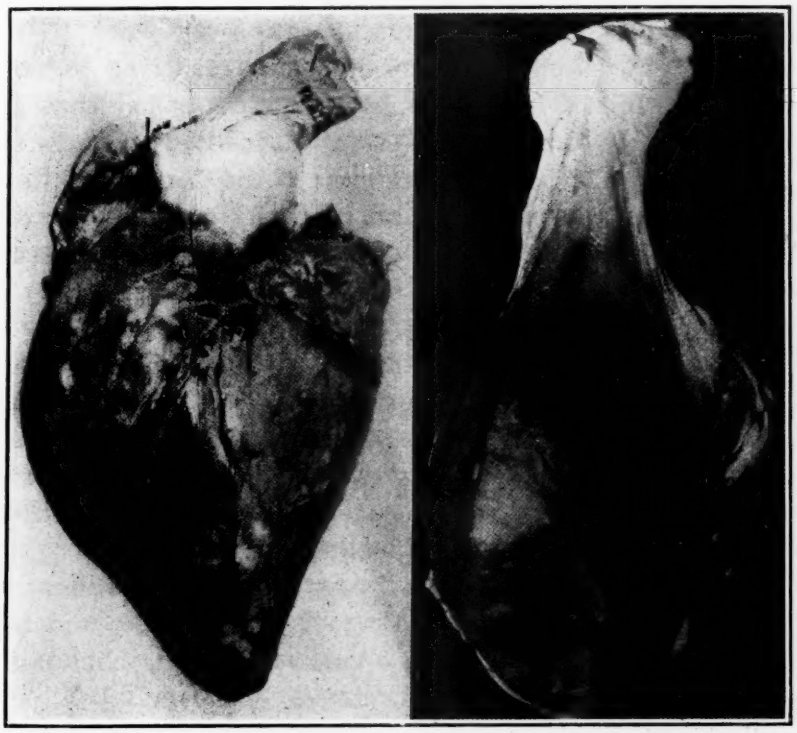
So long as the scolex remains attached and in the body of its host, it never develops into a sexually mature tapeworm, but must enter the alimentary canal of another animal of a different species.

All hydatids get their nourishment by inhibition, absorbing it from the surrounding tissues; accidental destruction of vesicle destroys its integrity and the hydatid dies. The shepherds in Europe take advantage of this fact in treating sheep affected with hydatid disease, or sturdy gid, as it is familiarly called, by manipulating the head between and behind the ears, where they usually find a softening of the bones of the cranium. This softening is due to absorption of the bone from pressure of the growing hydatid; but, of course, this sign can only be observed when the hydatid is superficially situated. After location of the hydatid the cyst is punctured, allowing the fluid to escape, and the skin over the opening covered by means of a piece of sticking-plaster.

DIFFERENTIATION OF HYDATIDS.

As most hydatids to the naked eye appear very much the same, it is only by careful microscopic examination that the differences are noted and a safe conclusion drawn. As, for instance, the distinguishing features of the *Cysticercus bovis*, or beef hydatid, are: (1) its habitat, (2) large size of scolex, (3) the considerable pigmentary matter around its suckers, and (4) the absence of hooklets on head. For this latter peculiarity it has been named the unarmed hydatid and tapeworm.

The cysts of *Cysticercus cellulosa* are elliptical, or flask-shaped. These are principally found in the muscular tissue of their host, the scolex being seen as a pearly white spot through the wall of its cyst. The cysts vary in size from a pea to that of a small bean. The head is globular in form, the size of a pin's



Antelope's heart, showing Cysticerci cellulosa.

Cysticercus from Spanish Ibex. Natural size.

head, and has a projecting proboscis or rostellum, around which are arranged a double row of hooklets, 24 to 30 in number. These hooks are composed largely of inorganic matter, and are almost indestructible, resisting degenerative processes and may be found long after the organic parts have disappeared. This hydatid is principally found in muscles of swine. Its presence here during life can occasionally be detected by a string of hydatids on either side of the tongue or floor of the mouth. In pork these hydatids give the muscles a pale, moist, and flabby feeling, and this condition is spoken of by meat inspectors as measly pork. This flesh does not cure very well, and is not fit for human food.

In certain countries, *tænia*, with rare exceptions, infects all the inhabitants, among whom raw cow's flesh is looked upon as the greatest delicacy. In this instance, both men and cattle furnish the conditions favorable to propagation.

Thorough cooking kills the cysticercus, rendering it harmless. It has been demonstrated by several experimenters that a temperature of from 55°–65° C. (131° Fr.–149° Fr.) is sufficient to kill the parasite. In some of the German abattoirs, where the carcasses of animals affected with cysticerci are considered fit for food, the meat is cut into suitable pieces and thoroughly sterilized (in large ovens built for this purpose) before being exposed for sale.

In this country, where the custom is to cook the meat more or less thoroughly before eating it, the chances of an individual becoming affected with tænia are not so great. With the exception of the heart, *Cysticercus cellulosa* are seldom found in internal organs, while fat tissue is nearly always free from them.

CYSTICERCUS TENNICOLLIS.

This hydatid is found in all domestic and wild ruminants, but is probably most commonly met with in sheep and deer. The progenitor of this hydatid, *Tænia marginata*, inhabits the intestines of the dog, fox, and wolf.

This hydatid is sometimes confounded with the *Cysticercus cellulosa*, but it has a number of characteristic features which dif-

fer very materially from those of the latter, for which it should not be mistaken.

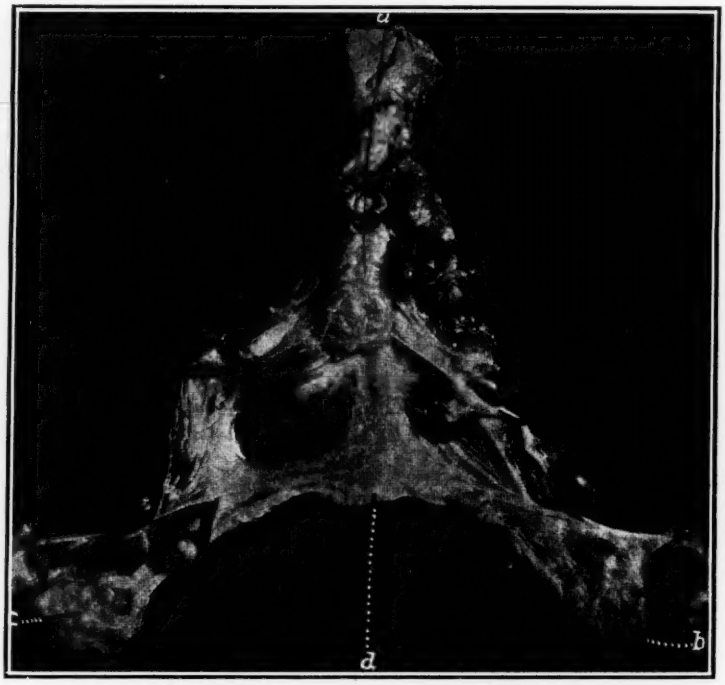
The size of the cyst depends upon its age and situation. If situated upon serous membranes (which is usually the position of this hydatid), lining closed cavities where little or no pressure is exerted upon them, they may reach the size of a hen's egg, or even larger.

In the case of the mule deer, the cysts of which show so well in the photograph, the largest cyst was about the size of a bantam's egg. In this case the cysts were contained in a sac, apparently formed from the peritoneal tissue, and having the appearance of small water bladders, and at the point of attachment there was a constricted portion produced by the weight of the fluid contained in the cyst. The outline of the scolex could be distinguished through the walls of the cyst, but not as plainly as through a cyst containing *Cysticercus cellulosa.*

In a series of experiments carried out by Leuchart, he found that cysts attained the length of .6 to 3.5 m.m. in ten days after infection, and at the end of seven weeks they measured 15 m.m. The scolex is well developed at 45 days, possessing a double row of hooklets like the *Tænia solium*, but are more numerous, 34–38, slender, and root of the hooklets longer than those of the latter, and the blades less curved. The different habitat, larger size of cyst, number of hooklets, and the long, slender neck of the *Cysticercus tennicollis* are the best guides for distinguishing this cysticercus from the *Tænia solium*, with which it might be confounded. While the peritoneum and pleura are by far the most frequent habitats of this species of hydatid it has been found in liver, lungs, and heart muscle. They may be found attached to the surface of the liver, or to the adipose tissue of the mesentery or omentum. The number varies from several, which were found in a mule deer, to over 100 found in another mule deer. In several instances I found the hydatid shriveled up and undergoing caseous degeneration, but on microscopic examination I could distinguish numerous free hooklets.

Two cases of cysticerci are, I think, of sufficient interest to warrant a brief summary of the autopsies. In both instances two mule deer were the infected animals, arriving at the Park together, and obtained from the same source.

Autopsy on Case No. 1; Mule Deer (Female). — Greatly emaciated, visible mucous membranes anæmic; abdominal cavity contained about 3 pints straw-colored serous fluid, without inflammatory coagula. Abdominal surface of diaphragm almost wholly covered with hydatids varying in size from a pea to a walnut, several of them being fully ¾ inch in diameter. The scolex seen through the walls and fluid of the cyst as a pearly-white spot. The size of the scolex varied according to the size of the cyst. The hydatids were more numerous upon the tendinous portion, but there were eight upon the fleshy part; on the thoracic surface of the diaphragm there were six



GENERATIVE ORGANS OF MULE DEER.

a, os uteri; *b*, ovary (a mass of cysticerci); *c*, ovary; *d*, bifurcation of uterus.

of the largest cysts; the smallest about the size of a hazel-nut. Upon the pericardium—that portion covering the apex—were three large cysts, none appearing in the muscle of the heart excepting two small ones on the surface of the right *appendix auriculæ* along its outer serrated border. On the gastro-splenic and gastro-hepatic omentum were numbers of scattered cysts, but the greatest collection was the group upon the gastro-colic omentum, where great masses of these cysts were found hanging in clusters, reminding one of grapes. The accompanying picture shows a small portion of this omentum.

On the mesentery, throughout, were a number of cysticerci scattered, but none of them being in clusters.

Perhaps the most remarkable condition was that found in the pelvic cavity and along the course of the uterus and fallopian tubes, in the folds of the broad ligaments and the ovaries themselves. These show particularly well in the photograph.

The fascia covering the dorso-lumbar region presented great numbers of these cysticerci of different sizes. In the left psoas muscles were 4 to 5 small cysticerci, three of them without cau-

GASTRO-COLIC OMENTUM OF A MULE DEER, SHOWING CYSTICERCI TENNICOLLIS.

dal vesicle, and scolex of a cheesy consistency. The vesicle having burst and been absorbed, causing degeneration of the remaining parts, I tried to ascertain if the head, with its hooklets and suckers, was still intact; but pressure between the glass destroyed it, and found hooklets scattered. The ovaries were about their normal size, but the shape was somewhat altered, firm to the feeling and having the appearance of a tubercular mass. The right and left ovaries were practically identical in size, shape, and consistency. Something like 20 to 25 could be counted on the surface, all of them small; some not much larger than the head of a pin, existing as shiny white spots. On making an incision through the ovary, the following condition was noted; that the medullary portion of the ovary was wholly free from cysticerci, while in the cortical portion the cysticerci were very numerous, those nearer the surface of the organ being larger.

Notwithstanding the close proximity of the cysts in this organ, each cysticercus was separate and distinct from its neighbor. The hydatids along the course of the fallopian tubes were especially numerous and large, existing as a continuous chain, with a group of large ones attached to the folds of the broad ligament between the ovary and fallopian tubes, which cover the *parovarium*, and extending from the ligament by a slender neck. I was under the impression at first, on finding the cysts in the ovary, that they were of a different species of embryo than those found elsewhere; but a careful microscopical examination, made immediately after the photographs were taken, showed them to be the same as the others: *Cysticercus tennicollis*, the progenitor of the *Tænia marginata*.

The Autopsy of the Second Mule Deer.—The cysticerci were found in greater numbers, of larger size and more widely distributed, hardly any organ being free of them. I found them on lungs, costal pleura, diaphragm, liver, mesentery, peritoneum, and serous covering of intestines. Upon the gastro-colic omentum I counted over 50 cysts.

The abdominal cavity contained a considerable quantity of

thin, yellowish fluid, in which were found several detached cysticerci without caudal vesicle.

The examinations were made by putting the cyst upon a slide and puncturing it. The hydatid is usually invaginated, but by putting it between two slides and exerting slight pressure, the head will be protruded, the suckers and hooklets plainly seen, and can be counted without staining the specimen. By the addition of a little balsam you have a permanent mount. By immersing a specimen in 8 per cent. solution of caustic potash, and then through a clearing fluid, as oil bergamot, the hooklets are better shown.

A GIGANTIC MILK SYNDICATE.—A corporation with a capital stock of $25,000,000 has been formed to supply milk to the cities of New York and Brooklyn. As an earnest of the good faith of this new company it may be stated that it paid the large sum of $12,500 as its incorporation fee to the Secretary of State at Albany. The intention of the promoters is not to drive out dealers presently engaged in supplying milk to the citizens of Greater New York, but gradually to absorb their business and retain them in its employ. It is figured that under good management such a saving could be effected in the delivery of the milk alone as to make a paying enterprise out of every milk-dealing route in that city. The economies that might be observed in procuring the milk and cream from the farmers in the country and in shipping foot up to a very large sum. It is pleasant, too, to note that it is the intention of the men at the head of this movement to sell only the very best article they can procure and to comply with the law in every particular. Many of the milkmen presently in New York are perpetually at war with the health officers on account of the milk being below grade or treated with some chemical to make it keep sweet, but under proper management there would be no incentive to resort to the illegal use of such deleterious substances, because the right amount only would be shipped in and then promptly delivered. Here is an instance where much good promises to come of combination. With the making of the milk in the country, the shipping of it and the subsequent delivery of it in the city all under the same competent management there is no doubt that the conditions in the milk industry in Greater New York will be greatly ameliorated.—(*Breeders' Gazette.*)

THE INFLUENCE OF THE ATTITUDE OF THE ANIMAL AND THE PHYSIOLOGICAL ACTIVITY OF ORGANS UPON THE RELATION OF PARTS.

By W. L. Williams, V. S., Prof. of Surgery, New York State Veterinary College, Ithaca, N. Y.

In the July Review, p. 361, there appears a query from Dr. Dalrymple as to the cause of the universal abrasion which he had, for the first time, noted on the lateral aspect of the tarsus of foals. If the Doctor will take the trouble to pick up a foal's foot and place it in the position attained in sternal decubitus he will find that the abrasion moves from the depression between the calcis and lower end of the tibia and takes its place directly over the very sharp external tuberosity on the inferior end of the latter. The skin of the new-born foal being very delicate, those parts destined to endure great wear are not prepared for it and need become inured to the usage, as a horse must become accustomed to the collar before he can work without galls.

The abrasion is not confined to any locality, so far as we have been able to observe, but is universal, regardless of soil, climate or herbage.

The query is illustrative of a very interesting and important fact: the attitude of an animal may profoundly alter the relations of a part or an organ to other parts of the body.

It further suggests the equally interesting and important fact that parts or organs may greatly change their form, consistence, position, direction and size according as they are at work or at rest, whether we examine them in the living animal or in the dead.

These questions greatly affect the surgeon in diagnosis and when operating. In diagnostic studies we have perhaps no more illustrative example than the knee (stifle) of the horse.

The form of this articulation under varying conditions is exceedingly perplexing and leads to many errors in diagnosis

The layman excusably refers a large proportion of the cases of lameness in the posterior limb to this complicated and unique articulation, which rarely becomes affected. The horse lends encouragement to the delusion by resenting the handling of this part almost beyond that of any other portion of the body. Veterinarians follow the layman and find more cases of stifle lameness or disease than can be clearly shown by autopsy or unquestionably shown during life.

The so-called upward dislocation of the patella in the horse illustrates the point well. Practically all writers on veterinary surgery describe this accident and it probably occurs, but we have failed to see a case where we could discover clearly this peculiar displacement, nor have we seen a clear case recorded in the annals of veterinary literature. We say that dislocations are due to violence, but in these cases we have never been able to trace any given case to strain or other traumatism. The "dislocation" is generally "reducible" by means of a sharp blow with a whip, which should cause, rather than relieve. If the "dislocation" is once "reduced" and the horse can be made to walk he can go on with perfect safety from a recurrence, but if stopped after only a few steps have been taken the patella performs the mysterious feat of "slipping out" again! If this difficulty occurred in any other articulation its character would probably be very clear. So far as we have seen, the "dislocation" *always* occurs when the horse is *standing still* and the articulation undergoing no movement!

Other familiar delusions dependent on attitude are the unnatural prominences, seen in some cases of severe posterior lamenesses, of the free ends of the floating ribs on the affected side and the apparent swelling at times observed over the latissimus dorsi muscle in cases of lameness in the anterior limb.

From the operative standpoint the question of attitude of the patient at times assumes a very important phase. Who has not confined an animal by casting for an operation, has done his work apparently right, only to find, when the patient has regained his feet, that the incision is not at all where the oper-

ator thought or wished? The difference in the character and position of certain organs according to whether they are dead or alive, active or at rest, healthy or abnormal, is of the highest importance. The uterus and vagina of the mare afford excellent illustrations. When at rest the walls of the mare's vagina are supposed to be in contact, but when excited by the introduction of the surgeon's hand or by the injection of warm water into it, it "balloons" in such a manner as to occupy the entire pelvic cavity and its walls stand apart a distance of 7 to 10 inches. Its relations to other organs become profoundly altered; the anterior portion of the organ which is covered with peritoneum lies in contact above with the rectum while at rest, but when "ballooned" this peritoneal portion stands up as a transverse curtain across the anterior end of the passage. It therefore happens that one surgeon will direct that in the spaying of the mare the incision should be made upwards through the roof of the vagina while another will make it straight forward in a line parallel to the spinal axis. The field of operation is the same in either case, but it has changed its location owing to the difference in the state of activity or rest. After inserting the hand into the peritoneal cavity to complete the operation the surgeon finds the uterus very unlike that of the dissecting room in form and direction.

We constantly tend to confound "anatomy" with the character of the living animal. We should constantly bear in mind that anatomy deals with the form, structure, location, relations and other attributes of the tissues and organs of the dead animal only and that we must study the living animal as carefully as the dead if we would comprehend it. So we must study the animal at rest and at work, and in its various attitudes of rest or activity in order to understand the many questions arising.

IN SOUTH AFRICA, the Government bacteriologist, Dr. Thieler, and staff, have recently been transferred from the Department of Public Health to the Agricultural Department. It seems now to be generally conceded that the control of animal diseases and agriculture go together.

RABIES.

By Dr. A. J. Pistor, Bureau Animal Industry.

Read before the Ohio-Nebraska State Veterinary Medical Association.

As our knowledge of diseases and medicines increases so does the subject of preventive medicine take a more important place in the medical profession. When considering a medical problem to-day, one of the important factors considered is that of prevention, and in the cases of infectious diseases that also of eradication. In this, the quarantine laws and the methods of isolation become factors of great importance. And that they shall be of value they must be constructed in such a manner that they will conform with our advanced ideas.

From a standpoint of practice, rabies must truly be considered as to its methods of prevention. With this idea in view I will briefly go into a description of our knowledge of rabies, and will then consider rabies from a standpoint of prevention, and with this would naturally follow, its eradication.

Rabies is an acute specific disease caused by a specific organized substance. It is propagated by direct inoculation, either naturally or artificially. By natural inoculation, I mean either by the bite of a rabid animal or by the virulent matter being absorbed into a wound or abraised skin, as would happen when a rabid animal is allowed to lick the skin. Artificial inoculation relates to laboratory methods. That there is a specific agent which causes the disease has been proven by every investigator who has had any impartial dealing with the disease. He has inoculated and re-inoculated the virulent matter with practically the same results in every case. And where a sufficient number of parallel test inoculations were made, the experiments were continued from the original virulent matter for many generations.

The active virus has not as yet been described, yet the burden of proof all points toward an organized body. Paul Bert proved that virulent saliva from rabid dogs could be made inactive by passing the saliva through a plaster filter, thereby argu-

ing that the virulent part must have had some structure or it would not be capable of being detained in the pores of the filter. Its history, its mode of propagation, its period of incubation, its pathological lesions all indicate an organic virulent agent.

Australia has remained free of the disease, because the active agent was excluded from the country by strict quarantine regulations of all imported dogs. England has now rid itself of rabies by strict measures, and only through the introduction of a new case from some other country will it again appear in that country.

The infectious substance is produced, or grown in the living body, and soon loses its virulence after the death of the body which harbors it.

Children and animals who practically are not capable of worry are the victims in the greater number of cases. This would be a way to overcome the psychological cause, as so argued in the past, but which argument is hardly necessary in view of the large amount of positive evidence reported in every outbreak, and proven in every set of experiments as to the actual existence of a virus.

Rabies is reported in many species of animals. Even birds (pigeons) are not immune, as reported by Kraus and Clairmont. Its greatest number of victims are among the dogs, but cattle, horses, pigs, and other domestic animals are also frequently affected. The age, sex or condition of an animal are no guards against its invasion. And from every clime come the reports of its existence.

In this section of the country it is greatly on the increase and consequently is of great interest to the economist of this district.

Its period of incubation varies and no positive opinion can be given as to its length of time in some individual or animal after the same has been bitten. It lasts from a very few days to a year and even longer, some cases being reported where the period lasted fourteen months before the symptoms manifested themselves. Pasteur has proven that the smaller the

amount of virus injected the longer the period of incubation; again the nearer to the nervous centre the inoculation was made the shorter the period. The less contaminated the virus the shorter the period of incubation, so virus taken from the brain proved to be the most active in its results.

The symptoms are quite similar in all species and are mainly of a nervous order. Mental excitement being the prominent manifestation. A change of the demeanor of the animal will be first noticeable. The animal will be a least bit uneasy, it will seek some quiet, or dark place, but will even move about while there, restlessness. It will try to crawl under some straw or any other thing around, then it will tear and shake these articles and will swallow some of them. It may howl and its howl will be strained and unnatural. It may be more friendly or more vicious than usual. Then it will attempt to run away and if loose will run, again returning or dying on the road. It will bite at all objects that may happen in its path. Horses will smash their stalls, rub their lips so that they become lacerated, kick, bite, and be generally vicious, sometimes act colicky; cows will bellow, run, suddenly stop, throw about their head and snort, chase and try to hook other animals. Hogs will tear up their bedding, bite at articles with which they come in contact, also bite at animals. Gradually paralysis sets in and then death ends their suffering.

Clinically there are two forms of the disease: the furious or violent, and the dumb or sullen; between the two there are all stages of modification; in the dumb form the vicious period is usually absent or hardly noticeable, the paralytic stage immediately following initial or melancholic stage. The symptoms usually last between three and five days, but may be as short as two days, or as long as ten days. In birds it is longer than this, and the bird virtually dies of starvation due to paralysis of the larynx and pharynx.

The sections are diagnostic by their negative presentations. Besides some inflammatory lesions on the mucous membranes, there are few other manifestations noticeable. The stomach of

the dog may and usually does contain foreign matter. The bowels are quite empty, some signs of constipation may be present. The microscopical lesions are of such a nature to be of little use to the general practitioner, hence I will omit them.

Having briefly and hurriedly gone over the pathological discussion of rabies, I have omitted many points which would be necessary to make that subject complete, but I think that I have enumerated the most important points and will now finish my subject with the treatment and prophylaxy of rabies.

When a person or animal is bitten by a rabid animal it is first in line to rid the wound of any virus which may have been inoculated, or else so destroy the virus that it loses its virulence. Nothing being at hand sucking the wound very forcibly would be in order; this would have a tendency to draw out the virus and would cause a greater flow of blood, thereby washing out the virus and avoiding absorption; excision of the wounded parts may be practiced. The actual or chemical cautery may be used, as the hot iron, corrosive sublimate, nitrate of silver, antiseptics, as creoline, carbolic acid, etc.; the foregoing must be applied as soon as possible after the injury, if too long a time is allowed to elapse the virus may be absorbed, and then local treatment will be of no avail.

The Pasteur treatment is most in line when human subjects have been inoculated or bitten by a rabid animal. This treatment has been extensively administered and statistics are very much in its favor. No treatment has proven efficacious after the symptoms make their appearance.

When a person is bitten it is advisable if possible to secure the attacking animal, place it where it can do no further harm and then carefully observe the development. If there is any doubt about the case, a part of the brain may be inoculated into another animal or two; rabbits answer for this very nicely. By inoculating these test animals into the coats of the brain results are more readily and positively obtained. A rabbit reacts in from eleven to twenty-one days.

To introduce preventive measures is no easy matter; on this

score one encounters many obstacles. If we could be obeyed to the letter, the stamping out process would become a simple matter. In this case dogs are our first object of attack because the disease most often appears in them, and because it is spread by direct inoculation (a bite). Dogs are allowed the freedom of our cities and country and thereby the spread of rabies is greatly facilitated.

To inaugurate any measures which will control these dogs does immediately arouse the antagonism of a large percentage of dog owners; they personally agitate against such measure, and under the cloaks of humane societies, spread about much that is opposed to such work. In fact they fight it on any ground, both real and imaginary; still in so doing they simply display their ignorance. For look at the actual results that have been obtained from time to time in many different localities by the control of dogs, especially in Berlin and Vienna, where it has been prevalent in direct proportion to the freedom given the dogs. In England where the disease has been practically eradicated through the muzzling of dogs and destruction of all exposed cases. In Australia where it has never appeared, due principally to the strict quarantine enforced against all dogs seeking admission to that country.

The measures to be adopted should be both general and special; general as pertaining to all dogs, and special in those cases where the symptoms have actually appeared or where an animal has been exposed.

As general measures I would advise the licensing of all dogs; the establishing of dog wardens, whose duty it would be to enforce the dog license and catch and destroy such dogs as are not properly taken care of by their owners; in order to identify licensed dogs they should be properly provided with a tag. He might act in conjunction with the Board of Health and so take direct charge of rabid and exposed dogs. Dogs should be excluded from public highways, except when properly muzzled and led by a chain.

Under special regulations would come the reporting of all

cases of rabies to the proper authorities. The disposal of such cases. The proper control of all exposed animals. Exposed dogs might be immediately destroyed, as a quarantine of such dogs for three to six months would not positively include every case, the period of incubation being very irregular, it frequently extending over six months. To make the period one year would not even catch every case, and as a dog lives but comparatively a few years, it would be a matter of economy, rather to destroy the dog, than extend the quarantine period, and remain in doubt for that length of time. The report of a case should be followed by a close observation of all dogs in that section for a definite period of time, say six months. These measures can be modified by the authorities, according to their judgment and the observation of new cases.

In this section and west of here I wish to particularly call your attention to the possibility of wild animals conveying the disease, especially coyotes and wolves. They are quite dog-like in their nature and act very similar to dogs when affected; they will become quite bold and venture into the roads, pastures and farm yards, and there attack the farm animals. In this case I should advise measures which would annihilate them. Again I would warn against strange dogs that are running aimlessly about the country, dirty and perhaps having a tendency to attack objects. Or to familiar dogs that suddenly are manifesting a changed disposition, as that might be but the initial stages of rabies. The saliva being virulent even several days before noticeable change is seen, it would be advisable to discontinue the habit of allowing the dogs to lick one's person.

IN THE TRANSVAAL it is proposed to form an African Agricultural Association, composed of representative farmers, fruit growers, foresters, and veterinarians from the various affiliated societies scattered all over South Africa. The sections contemplated in the proposition are: (1) Agriculture, (2) Horticulture, (3) Forestry, (4) Veterinary Science. As the association, which is to meet annually at various points from Cairo to the Cape, progresses, these sections can be subdivided and specialized.

COLLARGOLUM FROM A CLINICAL STANDPOINT.

By W. E. A. Wyman, M. D. V., V. S., Prospect, Ohio.

About five years ago, while perusing a German periodical, the writer learned for the first time of the existence of collargolum. In due time a supply was received. To-day collargolum is still comparatively unknown to many veterinarians, at least from a practical point of view; therefore this contribution. Collargolum, next to swine fever antitoxin, is probably of greatest value to the country practitioner, while the city veterinarian having any amount of use for this exceedingly valuable therapeutic agent is more confined in its exhibition to one animal; that is, the horse.

Collargolum is a non-poisonous, soluble silver, soluble in water and albuminous liquids; it is completely excreted, and therefore does not produce argyria. The sole agents for the United States are Schering & Glatz, New York City.

It is primarily useful in combating those septic affections before which we formerly stood helplessly, and toxæmias when treated with this soluble silver in time will often make a prompt and brilliant recovery. In morbus maculosus, or what we Americans wrongly term purpura hæmorrhagica, it is as nearly a specific as a medical man will admit any drug to be. But not only is it a curative agent, but it is a distinct preventive, since it is a powerful internal antiseptic.

Up to 1898 the writer used Dieckerhoff's suggestion in the treatment of morbus maculosis; that is, the intratracheal injection of Lugol's solution; and while it gave better results than any other treatment so far known, the streptococcus serum not excepted, nevertheless there was lots of room for improvement.

The nicest way to employ collargolum is to inject it intravenously. The vein (that is, the jugular vein) is allowed to fill up by compressing it with one finger while the other hand pushes the well-sharpened point of a long and slightly curved needle, the same to be about three inches long anyway, through the skin and into the jugularis. Of course, the hair has been clip-

ped off and the parts thoroughly washed with P. D. mercury soap. It is needless to say that the syringe and needle are aseptic. As soon as the needle enters the vein the flow of blood from the needle shows that the injection can be made. Generally speaking, it is well to use a twitch upon the horse's nose, as it is somewhat unhandy when he moves about, especially when the syringe is placed upon the needle, as at that moment the needle may be pulled out of the vein. The frequency of the injections and the amount to be injected necessarily depend up the severity of the case and the weight of the animal. The writer prepares a solution made of ½ ounce of collargolum dissolved in 8 ounces of sterilized distilled or rainwater. Of the solution from 1 to 5 syringefuls are given at each visit, this representing 37½ grains of collargolum. Even in the most serious cases of morbus maculosus, the writer had never found it necessary to give more than two injections the first two days, while one injection for another day or two will, as a rule, suffice to complete a cure. Of course, there are exceptions, and even with collargolum occasionally a horse will die, but in those fatal cases the animal is either well along in years, or has had the disease for some time, or is kept in such unsanitary stables that only a miracle would do the work. Whenever collargolum is injected the temperature will go up to 103 to 106° F. This is of course readily explained. The mucous membranes will become cyanotic and the pulse will increase in frequency and in tension. Once in a great while dyspnœa will follow such an injection, but this the writer only observed twice among all the hundreds of times that he employed it.

In 1900, while still in Milwaukee, the writer had ample opportunity to test the efficiency of collargolum as a preventive of septic affections. That year the horse population was visited by an infectious purulent laryngitis, in the wake of which any number of cases of morbus maculosus followed as a sequel. During this outbreak it became a routine practice with the writer to inject these cases of laryngitis once and twice with collargolum. Not only that it had a brilliant effect upon the purulent

process, but of the hundreds of cases treated by the writer not a single one developed morbus maculosus, while all the cases of morbus maculosus which were presented for treatment subsequently either had empiric treatment or had been treated by other gentlemen of our profession omitting the collargolum. There is to-day no doubt in my mind that to omit the use of collargolum in those diseases which are likely to be followed by purpura as a sequel, savors at least of negligence. Another disease where most elegant results are obtained by the use of collargolum is in lymphangitis. Since to-day the old theory of overfeeding as the causative factor is exploded, having given way to a hidden focus of pus-producing bacteria somewhere in the swollen region, the action of collargolum can be understood. No matter where this lymphangitis (or, better, cellulitis) is located, be it the leg, abdomen, withers, poll, etc., collargolum will certainly assist wonderfully in reducing the septic condition. In glandular affections, especially in protracted cases of strangles and sub-parotid abscesses, many a colt can be saved by the use of that silver salt which otherwise would be lost. Not only is it of value internally, but unhealthy, infected wounds soon will take a healthy aspect and reduce the practitioner's anxiety to a minimum.

The writer has had personal experience with collargolum, and is firmly convinced that had it not been for the silver salt he would not at this time write this article. While injecting the surrounding phlegmonous tissues of a calk-wound of the hind leg of a horse, the animal by a sudden move drove the point of the hypodermic needle into the thumb near the root of the nail of the writer. Although every precaution was taken to prevent an infection, nevertheless a most intense case of septic cellulitis developed. The writer's physician after making deep incisions into the brawny parts, which were almost unbearable, consulted with some other surgeons and amputation of the thumb was suggested. Now, a veterinarian without a thumb is pretty unhandy, and the writer suggested to the attending surgeon an intravenous injection of collargolum. Since none

of the M. D.'s had ever used it, an argument was started, but the writer won the day, and the collargolum was injected.

To make a long story short, the thumb in two days was about its normal size, and, outside of a collargolum pill, which the writer used internally, and a collargolum dressing to the wound, caused the thumb to make a complete recovery. To see is to believe.

In the following instances collargolum will prove of great value to the veterinarian: In purpura hæmorrhagica of the horse, in all purulent inflammations of the cellular tissue, in protracted glandular diseases, purulent laryngitis and pharyngitis, in all septic states, as omphalophlebitis in colts and calves, septic affections following the retention of the afterbirth in mares and cows, malignant catarrhal fever of cows.

Of course, there are many other diseases where the injection of collargolum would and does prove of value. Just bear in mind the fact that it is the only and best internal antiseptic for the blood; that its application is inexpensive and safely made, and those as yet unacquainted with this agent should soon get a working knowledge of this soluble silver.

A NEW WORK FOR VETERINARIANS.—About 60 head of pure-bred Hereford cattle, a part of the noted Armour herd of Kansas City, are being rendered immune to Texas or Southern fever for the purpose of shipment to Central America. The work of immunizing is under the direct supervision of Dr. Connoway, of the Experiment Station, Columbia, Mo., Dr. Guy A. Roberts being in immediate charge. This phase of the application of veterinary science will doubtless grow in favor, and is one which can profitably engage the attention of veterinarians.

BUREAU INSPECTORS IN DEMAND.—The eligible list for appointment as veterinary inspector in the B. A. I. was exhausted again about July 1st, and the Department is forced to make temporary appointments to supply the needs of the Bureau.

THE STATE OF NEW YORK has 226,720 farms averaging in area 99.9 acres. The annual sales of dairy produce are $353,000,000; of live stock, $145,000,000; of hay, $140,000,000; of vegetables, $101,000,000, and of fruits, $51,000,000.

PURPURA HÆMORRHAGICA.

By U. S. G. Bieber, D. V. S., Kutztown, Pa.

A Paper read before the Schuylkill Valley Veterinary Medical Association, at Pottsville, Pa., June 17, 1903.

Purpura usually occurs as a sequel to debilitating diseases, such as strangles, influenza, laryngitis, etc. It may, however, arise primarily in the absence of any previous disease, from badly ventilated stables, poorly fed horses, and animals subjected to exhaustive work. It is principally due to a primary deterioration of the blood, weakness of the capillary vessels, and general exhaustion of the nervous system. Its gravity does not depend so much upon the amount of blood extravasated, as it does upon the disturbed action of the vaso-motor centres.

Symptoms.—The disease is manifested by the occurrence of sudden swellings on various parts of the body—head, lips, limbs, abdomen, sheath, etc. They may be diffused or very markedly circumscribed; though in the advanced stages they cover large areas; they pit on pressure, and are but slightly painful to the touch. The limbs may swell to an enormous size; the nostrils may become almost closed, and the head and throat may swell to the point of suffocation. The swellings frequently gravitate from one portion of the body to another, or may recede from the surface and invade the intestinal mucous membrane. The mucous membrane of the mouth and nose is covered with dark red or purple spots. The tongue may be so swollen as to prevent the animal from eating or closing its jaws. In twenty-four or forty-eight hours, bloody serum may exude through the skin over the swellings, and finally large gangrenous sloughs may occur. The temperature, generally, is seldom very high, while the pulse is frequent, and compressible, and becomes feebler as the animal loses strength. A cough is usually present. The urine is scanty and high colored, and when the intestines are much inflamed, a bloody diarrhœa sets in. The lungs may become œdematous; extravasation may occur in the intestinal canal, or effusion of serum in the thor-

acic or abdominal cavities. A few cases run a mild course, and recovery may commence in three or four days, but the outlook is frequently unfavorable.

Pathology.—On section we find the capillaries dilated, the connective tissue filled with coagulated lymph, and frequently we may discover gangrenous spots beneath the skin, or involving the skin, the lymphatic glands. Extensive extravasations of blood may be found imbedded between the coats of the intestines, or excessive effusion into the lung substance.

Treatment.—Diffusible stimulants and tonics should be given from the very start, regardless of fever, or frequency of the pulse. Carbonate of ammonia, ʒi; fl. ex. red cinchona bark, ʒii; tincture ginger, ℥ss; with water, Oss. Give ℥ss every two or three hours. Then gruel or milk may be given every four or six hours, mixed with a little alcohol. Sulphate of iron, in two-drachm doses, may be dissolved in water and given every six hours. Chlorate of potash, in two-ounce doses, may be given with very good results.

When the discharge from the mouth and nose becomes offensive, ten drops of carbolic acid in two ounces of water may be given in a drench, or thrown on the root of the tongue, with a syringe, several times a day. When the swellings are very great, incisions half an inch in length over swellings should be made for drainage. The application of liniments or washes externally is of no use, and if injudiciously used may do harm.

SERIOUS ACCIDENT TO A VETERINARIAN.—While engaged at his professional work at Tuxedo Park, Dr. J. B. Finch, of Ramsey, N. J., came near losing his life on July 10th. Dr. Finch was dressing a surgical wound on a horse, which jumped, and the attendant, holding up a front foot, let go the foot and the horse let drive with his hind feet, hitting the doctor in the solar plexus and throwing him senseless at his feet. At first he was thought to be dead. Everything that medical skill and money could provide was done for him by wealthy men of Tuxedo Park, with whom the doctor is a great favorite. He recovered from the shock and injuries rapidly, and has now resumed his practice.

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

TRAUMATIC PERICARDITIS IN A COW.

By JOHN J. REPP, V. M. D., Ames, Iowa.

April 1, 1901, I was asked to see a three-year-old, pure-bred shorthorn cow, which the herdsman told me had been sick for about a month, lately growing rapidly worse. I found marked œdema about the dependent parts of the body, well-developed serous infiltration of the pleural and the peritoneal cavities, temperature 103, pulse rapid and small, respiration rapid and expiration grunting. I made a diagnosis of traumatic pericarditis, gave a prognosis of fatal termination and advised destruction. The man in charge, however, said he was anxious to try some treatment, as the cow was valuable. Accordingly I prescribed a powder of digitalis, calomel and squills to be given with her feed, advised rest and moderate diet. The cow lived until April 11, on which date I determined to use her as a subject for the demonstration of *paracentesis thoracis et abdominis* to the senior students of the Veterinary Department, Iowa State College. I was not careful as to the amount of fluid withdrawn, as the operation was solely for demonstrative and not for therapeutic purposes. I drew off from the thorax about a gallon of blood-tinged serum and a like amount from the abdomen. Within an hour after the operation the cow died, death having been hastened, perhaps, by the sudden withdrawal of a considerable amount of fluid.

Autopsy was made at once. The pleural and the peritoneal cavities each contained a large quantity of clear, sanguinolent fluid. The pericardial sac was distended so as to measure about a foot through each axis and contained about a gallon of yellow, flaky, puriform fluid of bad odor. The pericardium and its contents, including the heart, weighed 25½ pounds. The parietal pericardium was ⅛ to ¼ inch thick as measured in different places and its inner face and the surface of the epicardium were roughened and covered with a yellow, spongy, fibrinous exudate ¼ to ½ inch thick, slightly adherent and removable in large cakes. The myocardium and endocardium appeared to the naked eye to be free from any lesion. The lower

part of the lung was carnified by the long-continued pressure of the enormously distended pericardial sac. The reticulum contained about a dozen tacks and nails, several of which had penetrated toward the diaphragm. Leading from the reticulum through the diaphragm to the pericardium was a large fibrous mass burrowed in an irregular, indefinite manner by several tracts containing pus. The offending object was not found, although a careful search was made for it in the fibrous mass and in the sac. There is a probability that it passed back again into the reticulum after inciting the inflammatory reaction upon its forward passage.

INJECTIONS FOR THE CURE OF MUSCULAR ATROPHY.

By W. C. HANAWALT, D. V. S., Sheffield, Ill.

Dr. W. A. Heck, of Maquoketa, Iowa, has given in the May number of Vol. XXVII of the REVIEW an interesting account of his experiments with oil of turpentine. I do not wish to take up much of your valuable space, so will be brief. Cases treated in my practice for the last ten or more years have given fairly good satisfaction, and never an abscess nor other discouraging sequelæ. My mode of treatment is, in recently atrophied subjects, hypodermic injections of a strong solution of pure sodium chloride, and in long-standing subjects I use as strong a solution of perchloride of mercury as I can make with distilled water, and inject freely every two or three inches into the atrophied muscles, sending the needle in all cases deep into the tissues involved. In 12 to 24 hours the cavities are all filled and as the swelling recedes the muscles recover their former condition. In some cases the injections must be repeated.

I have found this method very satisfactory to myself and patrons. The after-treatment is nothing and the animals can be turned to grass without fear of any trouble.

I use salt solution the same way in small hernias—after replacing the intestine and advising a truss—with good results.

TWO INTERESTING CASES IN HORSES.*

By J. H. GAIN, V. S., Experiment Station, Nebraska.

Large Urethral Casts—Turpentine Poisoning (?)

You who were at the meeting a year ago will remember a three-year-old colt that was at the clinic for castration and which

* Read at meeting of Iowa-Nebraska State Veterinary Medical Association.

also presented a case of paraphimosis. The history of this case was this: the winter previous the colt had shown signs of having "kidney trouble," and the man in charge gave, as he stated, nearly a pint of turpentine in some linseed oil. The owner said he then was bothered by the urine dripping from him, was unable to retract the penis, and, it being extremely cold weather, this member was frozen and swelled to an enormous size. The swelling was finally reduced and in the fall he was sent to us the day before starting for Omaha, as a ridgling. We took it for granted that he was a ridgling, and as such, was presented to the clinic, when you remember the joke was on us by finding him a straight colt.

He was castrated and taken back to the station and three weeks later the penis was amputated, about four inches being removed. He began to improve in flesh and was soon put to work, where he continued to gain in weight. In a short time, however, he began to pass large quantities of urine, which would be continually dripping from him. This condition was thought in part due to alfalfa hay. He was later sent home, and in a few weeks was reported to be losing flesh and to be passing urine frequently, and was sent back to the station.

He arrived in very poor condition, and the next day a piece of tissue was seen hanging from the urethra, and upon getting a good hold with a pair of forceps a tube about fifteen inches long and an inch in diameter of what seemed to be a cast from the urethra was pulled out. The day following a much larger and somewhat irregular shaped piece was taken out. The owner told us later, that they had noticed something hanging from him some days before sending him down, and that they had cut off about six inches of the same kind as we first pulled out. The urethra now filled up with debris near the neck of the bladder and it became necessary to pass the catheter morning and night. At times considerable force was necessary to pass through the accumulation. The only time the animal showed the slightest uneasiness was during the time it was necessary to use the catheter, and this was from retention of urine.

The horse lost in flesh rapidly and a slight stricture developed, which we reduced by passing a sound every day. He was given an ounce of Sanmetto three times a day and shortly began to improve and by spring was in fair condition. The urine continued to drip from him continually. He was traded and lost sight of. I have here the casts removed from him, for your inspection. They weighed when removed twelve ounces. This

has been called a cast of the inflammatory exudate from the urethra and bladder. I leave this for your decision.

Punctured Wound of Foot—Muriatic Acid Poisoning (?)

While returning from my vacation in August, I stopped at the Stanton Breeding Farm, at Madison. A week before, a large Percheron stallion had been sent over from Madison to be used on the mares at the farm. The next morning after arrival, he showed up lame in left front foot and upon examination it was found he had picked up a nail. This had not entered the foot very far and was bent at right angles, so it did not touch the floor. It was easily pulled out with the fingers, looking, as they said, to have been in for some time. Upon advice of an empiric, the hole was opened up and muriatic acid, full strength, poured in and the foot put in a poultice of oilmeal. The horse soon showed evidence of great pain, breaking out into profuse perspiration, rolling, and not putting any weight on the foot.

Upon examination I found a fairly free opening, no swelling of the leg, but every sign of intense pain. There was no heat around coronet, but from the feel of the mouth and great thirst, evidently considerable rise in temperature. Not having a thermometer with me, was unable to say how high.

I opened up the hole freely, put the foot in hot antiseptic bath for an hour and then into poultice. He rested fairly well during the day, but during the night following was continually up and down, would cry like a human being in pain, and swing the leg while standing. Was away from the farm all day and found him worse at night, with high temperature, weak pulse, and visible mucous membrane highly injected. While dressing the foot he laid down against the wall, and died in that position early in the night. Owing to an abrasion on one of my hands and suspecting septicæmia, I did not make a post-mortem further than to cut away the sole of the foot, finding a deeply congested spot an inch and a half in diameter. The body was not swollen, neither did the leg, from which the skin was removed, show departure from the normal. Never having seen a case of this kind before, I have reported it with the view of finding the probable cause of death.

A NEGLECTED CASE OF AZOTURIA.

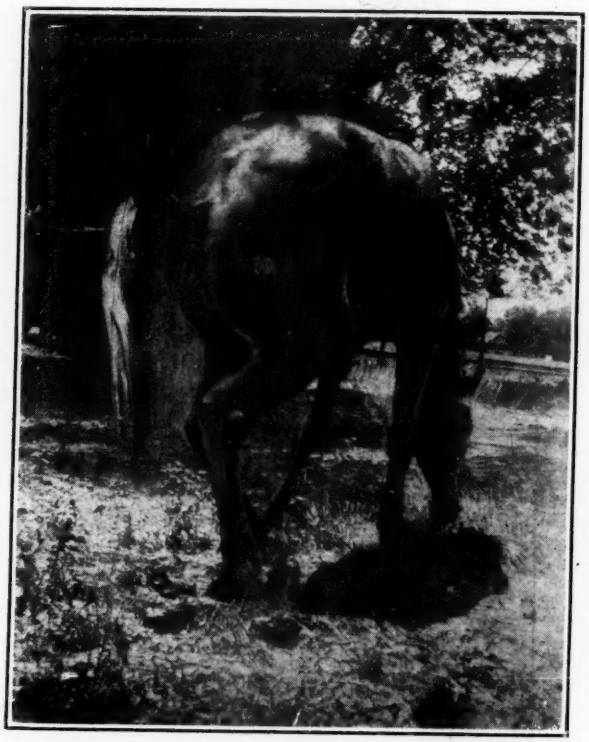
By HUGH S. MAXWELL, V. S., Salina, Kansas.

The accompanying picture is one of a horse that I was call-

el to see soon after returning from college. I will report two cases that I have been called upon to treat. My object in securing this picture and sending to you for publication is, first, to receive information; secondly, that it may benefit some brother practitioner; and if anyone wishes to write me on these cases I will be pleased to hear from them either through your journal or by private correspondence.

Case No. 1, of which I send you two views, hoping that you may be able to print them so the reading members of the profession may see just the condition in which this horse is. He is a four-year-old, dark iron-gray, weighs about 1400 lbs.; broken to work last October, and was used on a feed wagon here in

town, as he belongs to a Mr. Finley, a feed, ice, and coal dealer of Salina. About March 10 he and his mate were sent a mile or two in the country for a load of cane. He had been in the stable since the 7th. It was quite muddy. They made the trip out there seemingly all right, except that this horse was wet with sweat. The driver said he never thought of anything being wrong, as this horse was feeling good, kept playing and trying to run all the time going out. He put one shock of cane on the wagon, started to the next to put it on and he noticed this horse seemed a little stiff, but he moved on to the shock. When it was on and an attempt to go to the third, he was so stiff he could not pull the load, but was urged forward, and fell



in a heap. He was left, and an unqualified man was sent to treat him. He received some treatment, but can't say just what it was, only that his urine was not drawn. He was allowed to lay out on the damp ground till the afternoon of the twelfth (12th), a total of about fifty hours. He was then put on a sled and hauled to town, put in a box stall and let go, except for feed and water, till I was called to see him, April 8th. I found his shoes still on, which I had removed, and gave him aloes, ʒ viii ; pot. nit., ʒ i. ; and forced and lifted him onto his feet, when I saw his condition.

I concluded he was ailing in his psoas muscles, thus drawing his pelvis forward, and downward. I advised that he be put on his feet from one to six or eight times daily, thus causing him to use his muscles. I told the owner that I had very little hope of doing him any good, but ordered a laxative diet and the use of belladonna and potassium nitrate and forced exercise. The only improvement I can see is, that the horse now gets up and down himself several times a day and will graze around on a patch of rye. But he seems to be just as much out of shape

as ever. He seems to suffer but very little, if any. His respirations, temperature and pulsations are normal; has a good appetite, and his bowels bother none.

Case No. 2.—A mare, six years old, stood idle in the barn for five days; was hitched to a load of wheat, and started to town, when she began to show the usual signs of a well-marked case of azoturia. She was unhitched and taken to a neighbor's house, where she was treated by a farmer for rheumatism. She now has the same symptoms in her right hind leg as Case No. 1 has in both hind legs.

In case No. 2 I had a much better chance to examine for the seat of trouble.

And now I am of the opinion that in both cases they are not affected in the psoas muscles as I at first thought. But that the trouble is in the gluteal biceps rotator tibialis, and triceps abductor femoris.

Am I right or wrong? Is there any chance for recovery in these cases?

If so, what is the proper treatment?

DR. LEONARD PEARSON, State Veterinarian of the Department of Agriculture, has been offered an appointment as a member of the Philadelphia Board of Health. This offer of appointment is notable because it comes nearer giving milk producers representation on a city board of health than they have ever had before. It is well known that Dr. Pearson's sympathies are with milk producers and as a result of his efforts in their behalf covering a long series of years he has their confidence to an unusual degree. It will be remembered that together with Dr. Gilliland he has worked out at the University of Pennsylvania and is now perfecting under the support of the State Live Stock Sanitary Board a system for preventing tuberculosis of cattle by vaccination. It is to be confidently expected that his action in relation to questions pertaining to the milk supply of Philadelphia will be progressive but reasonable and in harmony with the best interests of producers of good, clean milk. As in his work for the State Live Stock Sanitary Board he will no doubt wish to receive suggestions and have made known to him the observations and opinions of practical men in the milk trade. This alone will be a distinct advance because heretofore the boards of health of cities have not given much consideration to the needs or wishes of dairymen.—(*Breeder's Gazette, July 18.*)

EXTRACTS FROM EXCHANGES.

ENGLISH REVIEW.

By Prof. A. LIAUTARD, M. D., V. M.

FRACTURE OF THE FEMUR IN A FOAL [*A. Marston, M. R. C. V. S.*].—A case which, no doubt, as remarks the author, ought to have attracted not only the attention of the S. P. C. A., but would have justified a severe punishment. A cart foal became lame, and, according to the owner, had "put his shoulder out." When seen she was found lame, with heat and swelling on one of her hind legs. No crepitation, no displacement was detected, but the symptoms justified a suspicious diagnosis of partial fracture, for which antiphlogistic treatment and absolute quietness were prescribed. Unsatisfied with the prognosis which was given, or persuaded by some one else, the owner called a local bonesetter, who proceeded to cast the animal, called on three men to help him, and began manipulating the elbow. Something cracked! "The bone going back to place," said the specialist, and the poor animal was allowed to get up much worse —so much more so that Mr. M., called again, had no difficulty in diagnosing a complete fracture of the shaft of the femur. He advised the colt to be destroyed, but the owner, rather late, preferred to wait. After three weeks the animal was shot. At the post-mortem, evidence of a complete fracture of the femur was detected. This had united, but the bone was much shorter than its fellow.—(*Vet. Record.*)

HORNY TUMOR IN THE SKIN OF A COW [*J. Bee, Student*].—The cow, an aged cross-bred animal, is in excellent condition, but presents an abnormal aspect of the skin, which consists in having on each side of the back and of the median line, horny growths, forming wide masses, 15 inches long and nine broad, which are themselves surrounded by numerous centres of various sizes. On the right side the horny tumor is from one to three inches, that of the left is somewhat higher. These growths are shelly in appearance, resemble roughly-broken scales, and can be picked off with the knife, when a small thickened portion of skin, which resembles the shape of the horny part, is left. As the tumor is very brittle, it is difficult to make a thin section for histological investigation, but when it is softened and stained with picro-carmine the structure, which resembles the horny

wall of the foot, is seen, but the horn tubules are very irregular.—(*Vet. Record.*)

INTESTINAL OBSTRUCTION [*Ch. Sheather, F. R. C. V. S.*].—Cases of this nature are usually interesting, if not so much by the variety of the symptoms as by peculiar manifestations and the nature of the lesions found at what is the final in many cases, viz., the post-mortem. The author records first the case of one animal in which the disease lasted as long as 19 days less a few hours, and which presented this very peculiar condition, that, although he was treated on the early active purgative principle, neither was pain enhanced nor death accelerated. In that animal, aged 14 years, the symptoms continued with more or less severity, and during all the treatment but little fæcal matter was thrown out. Castor oil, rectal injections, glycerine, sweet oil, etc., nothing improved the condition, and death occurred after 19 days less a few hours. At the post-mortem, among the principal lesions, there was found that at the termination of the fourth portion of the large colon there was a "scybala" or dung ball of the usual nodulated aspect, firmly fixed in the bowel. It weighed four pounds, and as a nucleus had a small round phosphatic calculus two inches in diameter. The author records also another case which lasted from Dec. 14th in the morning to Dec. 21 in the afternoon, say about eight days. In this, which ended fatally also, the colon was found plugged by a large phosphatic calculus and three dung balls of considerable size.—(*Vet. Record.*)

FRACTURE OF THE SUPRA-SPINAL PROCESSES OF THE DORSAL VERTEBRÆ IN A HUNTER [*W. Scott, F. R. C. V. S.*].—This record has a double interest—first, the injury, which ended fatally; second, the previous history of the animal. The subject was a hunter, which during the process of clipping, reared badly, fell backwards and gave himself a severe injury at the withers. Loose fragments of bones were removed, and fractures of the spinous processes of the third, fourth and fifth dorsal vertebræ were made out. Loose pieces of bones were removed, free room made for escape of pus, minute antiseptic measures resorted to, drainage, etc., and, notwithstanding all that, the animal, which during the first few days had seemed to do well and give favorable prognosis, suddenly grew worse, and in less than a week had to be destroyed on account of the symptom of systemic septic intoxication, which removed all possible chances of his recovery. This horse had a year before been examined at time of purchase and pronounced then as having some heart trouble.

His death was a good opportunity to confirm the diagnosis of that time. Indeed, at the post-mortem the heart was found flabby and larger than normal. On the semilunar valves there were calcareous deposits, a dozen or more, the largest the size of a small bean. In some places there were opaque spots, some undergoing softening. One growth was attached to the endocardium by a narrow thread-like base and situated at the base of the semilunar valve, and had its means of attachment given away might have produced embolism with its dangerous sequelæ. These growths were considered as of a rhumatoid origin, and indeed the animal had been treated several times for lameness of rhumatoid nature, either at the shoulders or in the hip.—(*Vet. Record.*)

OCCULT LAMENESS FROM DISEASE OF THE PYRAMIDAL PROCESS OF THE OS PEDIS [*W. Willis, M. R. C. V. S.*].—For the author the clinical signs of the trouble are "lameness, very variable in degree and nondescript in character; more or less marked thickening and induration of the skin and tissues underneath at the centre of the coronet; and a buttress-like condition of the hoof-wall at the toe." The indications for relief are neurotomy. Four cases are recorded to illustrate the subject. In the first, lameness of the off hind leg had disabled him several times and been treated for spavin and hip-joint trouble. He had some thickening of the coronet at the toe. Previous treatment having failed, the posterior tibial nerve of the off hind leg was divided and the animal, free from lameness, was able to work for three years. After her death, examination revealed a multiple fracture of the pyramidal process and adjacent bone, and bony deposits on the os corona. In a second case, besides the lameness, the peculiar V-shaped appearance of the hoof was marked, the lameness being intermittent. He was neurotomized and went sound. A third animal, lame on a hind leg, and worked for two years after, when she died of bowel trouble. With this subject also were there lesions of the pedal bone. The last case was not as satisfactory nor as successful, but yet the lesions were similar and pyramidal trouble was no doubt the cause of all the mischief. Since these cases the author has met with many others, his diagnosis has been the same, and for all he has resorted to neurectomy. He makes, however, a wise remark, viz.: "that considering the shattered state of the pyramid in some of the cases, it is really remarkable that they do not frequently go wrong when unnerved."—(*Journ. of Comp. Path. and Therap.*)

TRACHEAL ABSCESS [*T. Wolsey*].—This condition, although not very common, has, however, been observed in a few cases which have found their way into various veterinary papers; but, unfortunately, their interest has been more as post-mortem lesions than in any other way. The case recorded by the author was in an aged bay mare, which presented all the symptoms of suffocation, but from what cause could not be ascertained, notwithstanding a very careful examination and minute searching for all conditions likely to give rise to the serious manifestations present. At any rate, immediate relief was imposing itself, and to that effect tracheotomy was performed, the animal dropping down while the parts were prepared; the operation had to be completed while she was down. But when the tube was in place, respiration remained as difficult as before. The mare was helped to get up, but her condition was no better. Evidently the obstruction was below the tube. Nothing could be felt upwards nor downwards. Was it a thoracic choking? Unwilling to attempt another operation in the lower part of the trachea, Mr. Wolsey gave an hypodermic injection of atropine and morphia, left directions to make her comfortable and report. The mare died shortly after. At the post-mortem, besides the pulmonary lesions belonging to cases of asphyxia, there was found at "the bifurcation of the trachea an abscess, between the lining membrane and the cartilages, as large as a turkey's egg, situated on the superior aspect and bulging into the lumen of the tube. It contained ordinary creamy pus." An old enlarged sub-maxillary gland contained pus also.—(*Vet. Record.*)

INTESTINAL OBSTRUCTION IN A DOG—ABSENCE OF USUAL SYMPTOMS [*E. W. Hoare, F. R. C. V. S.*].—None of the usual symptoms were present, no abdominal distension, no vomiting, no pain and certainly no indication for the performance of laparotomy; and, yet, this fox terrier dog died after being sick for a week, with total loss of appetite, emaciation and diarrhœa. At the post-mortem there was found an obstruction about the commencement of the ileum, the intestine being inflamed and dark colored. On opening it, a smooth triangular-shaped piece of gravel wedged in the canal was exposed. In front of it was a small amount of ingesta. Back of it, the intestine was empty. This stone weighed one ounce. Considering its size, it is wonderful how it could have passed the œsophagus and the portion of the intestine it was in. The case is a good lesson for any one who flatters himself on his skill in diagnosis in canine practice, says the author.—(*Vet. Record.*)

FRENCH REVIEW.

By Prof. A. LIAUTARD, M. D., V. M.

ARTHRITIS OF BOTH KNEES — LONG SUSPENSION IN SLINGS—SEQUELÆ [*Lion Dupas*].—"Christine" was an aged mare which had badly broken knees from a fall. Both joints were widely open. After thorough cleaning and disinfecting of the wounds, the animal was placed in slings and a treatment prescribed of long irrigations with repeated injections of solution of sublimate, 2-1000, and a covering of powder of sulphate of copper and iodoform well mixed. The animal took well to the slings, in which she stayed for forty-six days. She sat well back on the breechen strap, with her hind legs well under her, back and loins arched, and the fore legs always extended. When for eating she had to straighten herself, she did it in carrying all her weight on the off fore leg. After the 46 days of slings, the wounds, which had proceeded well, were nearly healed; she stands more on the anterior biped; and, taken out of slings, she is brought out. Her condition is most peculiar. Viewed by profile, and the animal standing, the dorso-lumbar line is no longer horizontal, but very convex, the ilio-spinal muscles and the glutei are largely developed. The hind legs stand plumb, also the near fore, but in the off leg, the forearm is inclined obliquely backward; the metacarpal and the base of the knee are, on the contrary, oblique forward, forming a very obtuse angle open forward. The motions of the knee are changed; the flexion, instead of taking place backwards, is forward (although very slight). Looking at the mare forward: the chest is narrowed, the shoulder muscles emaciated, as well as the pectorals, and the legs are enormous, with forearms like big cylinders, larger at the knees. The right cannon region is bent outwards. In moving, the walking is very difficult. She brings her hind legs under her, raises herself, and it is only by a series of jumps that she succeeds in bringing her fore legs forward. At the examination of the right knee, it was found that it was freely open behind, the posterior common ligament having given away. The articular surfaces and the bones were also the seat of extensive lesions by crushing and loss of substance. —(*Rec. de Med. Vet.*)

ABORTIVE TREATMENT OF PUSTULOUS DERMATITIS OF HORSES [*C. Joly*].—Pustulous dermatitis (contagious acnea) is

characterized by an eruption of inflammatory pimples, round or oval, which suppurate, give out thick pus and leave hairless, small cicatrices. The disease is easily transmitted; has a tendency to last in contaminated places and is very troublesome, as often many horses are disabled by it. The treatments advocated by many have but a relative effect; antiseptics do not arrest it; astringents fail, etc. The author has used all, isolated the affected, etc., without success. In some cases not only did he fail to arrest the disease, but he has seen animals in which not only the back, but all the regions of the body become affected. It is then that he resorted to tincture of iodine. The hairs are clipped short and the place is brushed over morning and evening with tincture of iodine. The results are constant and immediate. The pimple aborts and disappears. There is no pus, no new infecting germs, the disease is cut short and enzoöty prevented.—(*Rev. Gen. de Med. Vet.*)

A Remarkable Case of Longevity [*M. A. Meynard*].—This is another good record. "Dulcinée" is a mare, whose birth cannot be positively ascertained; but what is certain is that in 1864 she was already used for hunting, a fact which justifies the supposition that she was then four years old, or perhaps even older, as this kind of work demands some special conditions which are not generally found in young horses. She might, then, have been born in 1860, and would be 43 years old. Still alive, she lives in liberty, and to all appearance is not yet ready to die. She has had a number of foals; the last ones were a colt on March 1, 1890, a filly on May 9, 1895, a colt on November 9, 1896.—(*Rev. Gen. de Med. Vet.*)

Cyst of the Right Ovary—Atrophy of the Left—Sterility [*M. Darmagnac*].—An Arabian mare showed symptoms of heat during the spring and summer of 1900. Covered on three different occasions, she was not pregnant, although all care had been taken to have a fruitful copulation. As it was very desirous to have colts from her, she was submitted to a special regimé, prepared for the mount, and when in season was covered. From this moment she remained constantly in heat, notwithstanding the antispasmodic treatment of bromide of potassium, to which she was submitted. At rectal exploration, the right ovary felt as big as a man's fist, the left ovary was not detected. Some time after the mare died with lung disease. Aside from the pulmonary lesions, the condition of the ovaries was interesting. The right was hypertrophied, irregular, bosselated, with two cystic cicatrices. The left was atro-

phied, as big as an almond and shrunken. The structure of both was degenerated, and the condition of the lesions rendered the ovaries unfit to perform their functions. The sterility of the mare was easily explained.—(*Rev. Gen. de Med. Vet.*)

FOREIGN BODY IN THE GIZZARD OF A TURKEY [*Ed. Séres*].—If the gastric compartment of birds has sufficient power of contraction to crush metallic tubes, steel needles, glass balls, etc., as shown by the experiments of Spallanzani, there is a limit to this power, as shown by the following, however great the toleration of the gizzard may have been. A turkey had swallowed a knife, and, after a week of inability to take or swallow food, had been killed. In its gizzard there was found a kitchen knife, 20 centimetres long, 18 millimetres wide. The point was turned towards the pharynx and reached the crop. The handle of horn was partly crushed. The metallic parts, and rivets were worn and polished. And, yet, this foreign body only prevented the passage of food, but gave rise to no trouble likely to produce death except that by starvation.—(*Rev. Gen. de Med. Vet.*)

DIAGNOSIS OF NAVICULAR DISEASE [*G. Joly*].—No matter where a good idea comes from, its application is always justified; and in the presence of the difficulty which often surrounds the diagnosis of navicular disease the author calls attention to the method of Lungwitz, which he says in his hands has shown him that out of 10 cases of non-traumatic lameness of the foot, 8 or 9 were due to phalangeal osteitis and 1 or 2 only to navicular disease. Post-mortem confirmed entirely the indications given by Lungwitz's wedge. The method is as follows: a hard wooden wedge, 20 centimetres long and 15 wide, is cut with an angle of 18°; it is placed under the suspected foot with the point of the wedge turned towards the heels and the base towards the toe; when the opposite foot is raised, the animal shows great pain if he has navicular trouble. As soon as the foot is relieved from carrying weight, the animal rests it forward or backward to allay his pain. But if, on the contrary, the wedge is placed in an inverse direction, so that the heels of the foot be raised, the animal stands still when the sound foot is raised, and the animal manifests no pain whatever when it is let go. If the result seems doubtful, the test can be applied by making it comparative with the wedge on the sound foot.—(*Rev. Gen. de Med. Vet.*)

LUXATION OF THE FIRST TWO POSTERIOR INTERPHALANGEAL JOINTS, WITH RUPTURE OF THE POSTERIOR LIGA-

MENTS [*Mr. Montazel*].—It is the case of a luxation backwards of the articulation of the first and second pastern of the two hind legs of a horse which had kicked badly while in harness. Of course, he cannot walk; both hind feet rest on the ground by the heels only; the toe is raised in both. The foot raised and carried in excessive extension, the lower extremity of the first pastern is readily pressed under the skin. The lateral motions are free; there is no crepitation. The animal is killed. The lesions are similar on both legs. The perforans tendon and the glenoid fibro-cartilage of the os corona is crushed but not ruptured. Both terminal branches of the perforatus are torn from the points of insertion; the fibrous bands which from this cartilage run to the pastern, and also the inferior sesamoid ligament, are torn. There is no fracture of the bone. The inferior articular surface of the first phalanx does not correspond any more to the second pastern; it is turned backwards and its cartilages more or less destroyed. This case is principally interesting by being so rare (?), so says the author; but it is not so rare. Several cases have already been recorded in the REVIEW. —(*Rec. de Hyg. and de Med. Vet. Milit.*)

AN UNUSUAL CASE OF SPREADING FRACTURE [*Mr. Joyeux*].—In a frolicking jump, a horse slips on the pavement and falls with both hind legs in excessive abduction. He rises with much difficulty, walks on three legs without putting the right hind foot on the ground. There is fracture of the floor of the pelvis. The horse is placed in slings, but, in a few minutes, slips out of them and dies. Autopsy: Coxo-femoral ligaments of both legs torn off and the heads of both femurs out of their cotyloid cavities. The right trochanterian tuberosity is loose from the femur. The muscular masses on both sides are infiltrated with blood. The pelvic cavity is filled with hæmorrhagic infiltration; there is blood in the abdominal cavity. The pubic symphisis is ruptured; there are several fractures of the left coxal bone, at the ischium, the pubis and the cotyloid cavity. In other words, the pubis is separated from the ileum and the ischium and divided in several pieces.—(*Rec. de Hyg. and de Med. Vet. Milit.*)

A REPORT is abroad to the effect that W. W. Gentry, of Indiana, has offered W. M. Savage, Minneapolis, Minn., the enormous sum of $92,000 for Dan Patch, 1.59½, and Directum, 2.05¼. The offer was promptly refused, Mr. Savage being reported to have said that the money would not buy Dan Patch alone.

ABSTRACTS FROM MEDICAL LITERATURE.

Under the Direction of E. M. RANCK, V. M. D., Natchez, Miss.

TO PROVIDE WHOLESOME MILK FOR INFANTS.—The plan to provide wholesome milk for babies is meeting with universal success in Philadelphia, and a number of contributions for large sums have been received. So far, about eighty proffers of help, in the way of branch depots where the milk, made according to the formula to be prescribed by the Department of Health, can be kept on hand and sold at a reduced price to consumers, have been made. The pasteurizing of milk is to be carried on all over the city, and the physicians all over Philadelphia are warm in their praises of the innovation.—(*New York-Philadelphia Medical Journal.*)

REFRIGERATOR CARS FOR MILK.—In a recent address by State Analyst Eaton before the Illinois Dairymen's Association, he advocates the use of refrigerator cars especially built to handle the milk traffic, also coolers at every station as well as a steam sterilizing plant for empty cans, and adds that if dealers were required by law or ordinance to wash cans before returning to the train, a great improvement could be made in Chicago market milk at little, if any, additional expense to consumers. —(*New York-Philadelphia Medical Journal.*)

MILK REGULATIONS IN CHICAGO.—Milk platforms at railway stations have been placarded with the following notices to milk dealers: "Shippers' cans must be returned to farmers clean and dry. All vessels used in handling milk should be scalded or sterilized daily. All milk bottles should be washed with hot soap-suds, rinsed in clean water, and then sterilized in boiling water or live steam before milk is put in them. No dealer can expect to hold his bottle trade unless he does this. If possible every dealer should visit the farm where his milk is produced, so he can assure his customers that it is produced under clean and healthy conditions. (Signed) Arthur R. Reynolds, M. D., Commissioner of Health." The following notice is for shippers: "Milk cans must be clean inside and out. No matter how clean a can looks, before using it should be washed with hot soap-suds, rinsed with clean water and then scalded. Milk shipped in dirty cans is liable to confiscation. (Signed) Arthur R. Reynolds, M. D., etc."

A MILK COMMISSION ORGANIZED.—The Medical Society of

the District of Columbia has organized and incorporated a milk commission for the purpose of establishing chemical standards of purity for cows' milk, and securing for the consumers of the District a pure milk supply.—(*New York-Philadelphia Medical Journal.*)

MODIFICATION OF FEHLING'S TEST FOR SUGAR.—Vasey calls attention to the fact that one of the disadvantages of Fehling's test for sugar in the urine, when used quantitatively, is the length of time that it takes for the light cuprous oxide to settle, and so to permit of the determination whether the blue color of the solution has entirely disappeared—*i. e.*, that all the copper has been reduced. He finds that the addition of an inert powder, such as precipitated chalk, or, better, barium sulphate, entangles the precipitated oxide and carries it rapidly to the bottom of the solution, thus leaving a clear liquid above in which the faintest trace of blue can be seen.—(*New York-Philadelphia Medical Journal.*

A NEW PARASITE IN HENS.—Catterina observed an epidemic in chickens which at first was taken for the disease known as chicken cholera. This disease was very contagious in hens. The author discovered in the blood of the affected birds a parasite which he proved to be the ætiological factor of the disease. This parasite is spherical, ovoid, or pyriform in shape, and at first the author thought that it was a protozoon, but it is very difficult to fix and to stain with the various dyes. He found on investigation that these spherical bodies were the spores of a mold that belonged to the family *mucidineæ*, and to the genus *penicillium*, and that these molds, as well as their spores, were present in the tissues and fluids of hens that had died of the disease in question. He found further that the disease could be reproduced by the injection of pure cultures of this parasite.—(*New York-Philadelphia Medical Journal.*)

"SCAB IN SHEEP," by D. E. Salmon, D. V. M., and Ch. Wardell Stiles, Ph.D., is the title of Farmers' Bulletin No. 159, issued by the Department of Agriculture. It gives a very full description of the parasite, its life history and differential diagnosis. The bulletin is chiefly devoted to a discussion of the treatment of this troublesome pest, dealing extensively with the subject of dipping, and contains many formulas of those to be used and some not to be used. It is well illustrated, and should be in the hands of all interested in the subject.

ARMY VETERINARY DEPARTMENT.

This REVIEW department was opened in the March number, and its object was there explained—the betterment of the Army Veterinary Service, through affording a forum for the discussion of subjects in which army veterinarians are deeply interested, and which are at the same time of interest and value to veterinary readers generally. The profession, and particularly army veterinarians, are invited to contribute communications, original articles, items of news, etc.

DR. HILL DEFENDS HIS POSITION.

FORT CLARK, TEXAS, July 7, 1903.

Editors American Veterinary Review:

DEAR SIRS:—I note in the last month's issue of the REVIEW Dr. Schwarzkopf's telegram to you in answer to my suggestions for the betterment of "The Army Veterinary Service." He says: "Outside influence is not allowed by the Secretary of War." He must have misunderstood my idea, as I do not see how the Secretary of War could object to civil veterinarians asking their Senators to support a bill which they were interested in. Of course we all know it is done and always will be. Dr. Salmon and Dr. Huidekoper wrote to all veterinarians asking them to see their respective Senators in behalf of the bill. Dr. Huidekoper went to see the President, and both made speeches in the Senate. Isn't this "outside influence"? Does the Doctor mean that the A. V. M. A. Military Committee is of no further use to us? These gentlemen, in my opinion, went at it in the strongest way, and I have since been told by both Senators and Army officers that the bill was splendidly presented and very nearly passed, and that another attempt on the same plan would have great influence. If the Secretary of War had objected, why didn't he at that time notify Dr. Huidekoper? Or is this ruling of recent date? I don't see why we should not continue the fight on the same plans which have proven to be good ones.

I also note in Dr. S.'s letter in the June number, that he says "our trying for rank will only meet with failure." Rank is almost essential for our advancement, and we will never be properly recognized till we get it. I believe a compromise was of-

fered to give us rank without the organization of a veterinary department during the presentation of the bill referred to. If so, our chances again may not be so hopeless as the Doctor makes out; but the combination is what we wanted then and now.

I think that two-thirds of the Army Veterinarians want rank to figure in our next bill, together with a regular organized Veterinary Corps. This is the standing they have in all other countries. Why should we aim any lower for our own service?

I would like to hear from other Army Veterinarians as to their views.

Very respectfully,

W. P. HILL,
Veterinarian 12th U. S. Cavalry.

* * *

ANOTHER SCHEME OF ORGANIZATION OF THE ARMY SERVICE.

FORT RILEY, KAN., July 11, 1903.

Editors American Veterinary Review:

DEAR SIRS:—I would like to say a few words in regard to the organization of a Veterinary Department in the Army.

I have read with interest the suggestions of Dr. Schwarzkopf, Dr. Hill, and Dr. Nockolds. Dr. Hill's suggestion, as Dr. Schwarzkopf remarks, is out of the question; we must act through official channels, and request recommendation by the general staff.

I would like to ask Dr. Schwarzkopf why the veterinarian of Artillery is not on the same level as his brother in the Cavalry; why should one be raised to the pay and allowances of a first lieutenant after five years of service and not the other? Let us stand together on all subjects pertaining to the advancement of our profession. If we are not united, how can we expect others to help us? We want organization, and at the same time we want recognition, recognition as individuals and recognition as an organized body of professional men. To obtain this, we must have rank. This is not for personal gratification, but I consider it necessary for the best interests of the service; and if we ask for modest rank and not too rapid promotion, I do not think we will find serious opposition. A commissioned officer would rather accept the advice of another commissioned officer than the suggestions of one who has no special standing. What officer of the line would think of dictating to a surgeon his line of treatment. On the other hand, how frequently it happens to the veterinarian. Some of us are, perhaps, more

fortunate in this respect than others, and soon gain not only the respect but the confidence of the officers with whom we serve. We are just living down the prejudice against a "*Horse Doctor*."

Now, as to trained assistants, stable sergeants, farriers, and horseshoers. Here at Fort Riley, we are doing a good work in this respect. A school has been organized here, officially known as "School for Farriers and Horseshoers." The first class graduated May 6th; the second class is now under instruction, and will graduate the end of September. The course is a thorough one, considering the short period of time (four months), and it is surprising the amount of theoretical knowledge these men are absorbing.

A glance at the accompanying schedule will give an idea of what we are doing. A man to graduate from this school has to apply himself, and at the same time he becomes a very valuable man in his organization. Such men should have the rank and pay of a sergeant; they are to the veterinarian what the hospital steward is to the surgeon. In this way we can retain them in the service, and not have (as so frequently happens) a good farrier promoted to make a poor corporal.

The outline that I would suggest for organization would be as follows:

A Chief Veterinarian of Cavalry with rank and pay of a Captain mounted.

A Chief Veterinarian of Artillery with rank and pay of a Captain mounted.

30 Veterinarians of Cavalry.

15 Veterinarians of Artillery.

All Veterinarians to be commissioned as Second Lieutenants to date from date after names in "Army List."

After five years service and examination (computed from date of commission) rank and pay of First Lieutenant mounted.

After seven years service as First Lieutenant and examination rank and pay of Captain mounted.

One Veterinarian to be chosen by the general staff from the Cavalry and one from the Artillery to act for a period of four years as Chief Veterinarians of Cavalry and Artillery with rank and pay of a Captain mounted; at the expiration of this time two more shall be selected in the same manner from the First Lieutenants for a period of four years, at the end of which time the ranking Veterinarians of Cavalry and the ranking Veterinarians of Artillery shall be Chief Veterinarians of their respective arms of the service.

The names of those who may transfer from one branch to the other, shall be placed at the bottom of the list of Captains, First or Second Lieutenants as the case may be.

Contract Veterinarian shall be under the control of the Chief Veterinarians of Cavalry and Artillery.

Very respectfully,
RICHARD H. POWER,
Veterinarian A. C.

* * *

SPECIAL ORDERS, No. 13.

SCHOOL OF APPLICATION FOR CAVALRY AND FIELD ARTILLERY, FORT RILEY, KANSAS, June 11, 1903.

SCHOOL FOR FARRIERS AND HORSESHOERS.

Term, June 1, 1903—September 30, 1903.

Director of School—Capt. W. C. Short, 13th Cavalry.

COURSE FOR FARRIERS—HIPPOLOGY.

INSTRUCTORS—Dr. Plummer, V. S., 4th Cav.
Dr. Power, V. S., A. C.

Recitations will be held in the Veterinary Operating Room.

FIRST SECTION.

NAME.	RANK.	ORGANIZATION.
Newhaus, Charles H.	Blk.	Troop M, 3rd Cavalry
Davies, Frank	Farr.	" A, " "
Edwards, George T.	Farr.	" H. " "
Collins, Daniel S.	Pvt.	" B, 9th "
Price, James J.	Pvt.	" C, " "
Roberts, William J.	Art.	26th Battery, F. A.
Steteklub, George	Rct.	Mounted Service
Bushey, William G.	Pvt.	Troop H, 2nd Cavalry
Henson, Verlie	Art.	12th Battery, F. A.
Hancock, Thomas V.	Art.	22nd Battery, F. A.

SECOND SECTION.

NAME.	RANK.	ORGANIZATION.
Banks, William	Pvt.	Troop F, 10th Cavalry
Smith, Patrick	Rct.	Mounted Service
Fish, James	Rct.	" "
Allen, Frederick	Rct.	" "
Morris, Charles	Rct.	" "

Barton, Thomas H.	Pvt.	Troop G, 7th Cavalry
Schott, Louis	Pvt.	" I, " "
Baur, John J.	Pvt.	" M, " "
Mihulka, Julius	Blk.	" B, " "
McMann, Daniel	Art.	3rd Battery, F. A.
Clark, Dillard	Pvt.	Troop M, 9th Cavalry

1st and 2nd sections will report at the Veterinary Hospital daily, at 8 A. M.

Recitations daily, Saturdays and Sundays excepted.

1st section, 11 to 12 A. M.

2nd section, 9 to 10 A. M.

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
June 1 Anatomy—"Skeleton"	2 Anatomy—"Skeleton"	3 Anatomy—"Skeleton"	4 Anatomy—"Respiratory Organs"	5 Review
8 Anatomy—"Digestive Organs"	9 "Physiology—Digestive"	10 Anatomy—"Circulation"	11 Anatomy—"Muscles"	12 Review
15 Anatomy—"Muscles and Tendons"	16 Anatomy—"Joints and Ligaments"	17 Anatomy—"Joints and Ligaments"	18 Anatomy—"Circulation of the Extremities"	19 Review
22 Anatomy—"Urinary Organs"	23 Anatomy—"Eye, Nose and Mouth"	24 Anatomy—"Foot"	25 Anatomy—"Foot"	26 Review
29 Stable Management of the Sick and Injured	30 Muster	July 1 Conformation and Points	2 Conformation and Points	3 Review
6 External Diseases	7 External Diseases	8 Cause and Treatment of Sprains and Bruises	9 Cause and Treatment of Disease of Bone	10 Review
13 Anatomy and Diseases of the Skin	14 Cause and Treatment of Diseases of the Eye and Mouth	15 Wounds and their Treatment	16 Punctured wounds about joints	17 Review
20 Wounds of the Foot	21 Diseases of the Foot	22 Treatment of Abscess, Poll Evil and Fistula	23 Disease resulting from ill-fitting harness and saddle	24 Review
27 Administration of medicines, weights and measures	28 Acute and Chronic Catarrh	29 Strangles	30 Laryngitis and Pharyngitis	31 Muster

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
August 3 Pneumonia	4 Influenza	5 Thumps and Heaves	6 Colics—Spasmodic and Flatulent	7 Review
10 Enteritis	11 Chronic Indigestion and Worms	12 Diseases of the Urinary Organs	13 Azoturia or Hemoglobinemia	14 Review
17 Laminitis	18 Anatomy of Nervous System	19 Diseases of Nervous System	20 Anatomy of Lymphatic System	21 Review
24 Disease of the Lymphatic System	25 Glanders and Farcy	26 Surra	27 Tetanus	28 Review
31 Muster	Sept. 1 Purpura, Hemorrhagica	2 Diseases of the teeth	3 Lameness, Detection of	4 Review
7 Dislocation and Fractures	8 Medicine	9 Medicine	10 Medicine	11 Review
14 Medicine	15 Medicine	16 Medicine	17 Medicine	18 Review
21 Medicine	22 Review	23 Review	24 Review	25 Review
28 Examination	29 Examination	30 Muster		

COURSE FOR HORSESHOERS—PRACTICAL INSTRUCTION.

INSTRUCTORS—

Private Lee R. Slayton, Troop D, 4th Cav.,

Blacksmith Charles E. Poates, Troop C, 4th Cav.

This work will be carried on in the School Blacksmith Shop.

FIRST SECTION.

NAME.	RANK.	ORGANIZATION.
Miller, Samuel	Blk.	Troop H, 9th Cavalry
Mayo, William T.	Pvt.	" K, " "
Goodwine, Nathan	Pvt.	" E, " "
Gustafson, John A.	Pvt.	21st Battery, F. A.
Bushey, William G.	Pvt.	Troop H, 2nd Cavalry
McConnell, Burl P.	Pvt.	24th Battery, F. A.
Book, John M.	Pvt.	8th Battery, F. A.
Steteklub, George	Rct.	Mounted Service
Hundey, John H.	Pvt.	Troop C, 3rd

SECOND SECTION.

NAME.	RANK.	ORGANIZATION.
Conner, Edward W.	Pvt.	13th Battery, F. A.
Robas, Lado	Pvt.	Troop H, 2nd Cavalry
Schneider, Wilhelm	Pvt.	2nd Battery, F. A.
Waughtel, Ora	Blk.	Troop G, 2nd Cavalry
Bolinger, Erastus	Pvt.	1st Battery, F. A.
Vinson, William C.	Pvt.	10th Battery, F. A.
Sullivan, Edward F.	Pvt.	Troop C, 7th Cavalry

1st Section—1 to 4 P. M., daily, (Saturdays and Sundays excepted) in Blacksmith Shop.

10 to 11 A. M., Tuesdays, recitation in hippology in Veterinary Operating Room.

2nd Section—8 to 11 A. M. daily, (Thursdays, Saturdays and Sundays excepted) in Blacksmith Shop.

Thursdays, 8 to 10 A. M., in Blacksmith Shop.

10 to 11 A. M., recitation in hippology in Veterinary Operating Room.

Four farriers of the class will be detailed by roster for periods of two weeks each, on duty in the Veterinary Hospital, and be instructed in stable management, care of sick horses, and first aid to sick and injured horses. These men will attend all prescribed recitations.

All the members of the class will attend reveille and check roll calls, weekly and monthly inspections and musters with the organizations to which they belong or to which they are attached.

By Order of the Commandant:

Official: F. T. ARNOLD,
Capt. & Adjt., 4th Cavalry,
Secretary.

(*Sgd.*) F. T. ARNOLD,
Capt. & Adjt., 4th Cavalry,
Secretary.

* * *

DR. GRIFFIN PRESENTS A PLAN AND AIRS SOME WRONGS.

Editors American Veterinary Review:

DEAR SIRS:—The agitation for veterinary improvement in the Army is still progressing, and I am afraid is becoming personal. Let us avoid this, and come down to facts.

Congress in its wisdom certainly did something to improve the Army Veterinary Service and the War Department has carried out the act of Congress to the letter; many new positions were created and a number of them filled by competitive examination. Still there are some few vacancies. Why?

Did Congress do enough for the Army Veterinary Service?

To the first question the reply is, because desirable candidates, graduates of first-class veterinary schools, hesitate to present themselves for examination, stating as a reason that the

inducements offered are not sufficient ($125.00 a month and 10% increase on this each suceeeding five years until the sum reaches $175.00 per month).

The rank is a peculiar one, next to that of Second Lieutenant, and never more. There appears to be a doubt as to the right of the veterinarian to retire on three-fourths of his pay and allowances after certain years of service or in consideration of disability, but we believe the Army veterinarian has this right, he being a military man in every sense of the word.

It is true, indeed, that many candidates present themselves for examination and that very many fail; it is also true that many of those who do present themselves are lacking in a rudimentary general education and possess but a crude professional one, which accounts for the numerous failures and shows that the desirable candidates do not present themselves in sufficient numbers. The impression prevails among many of those who present themselves that all that is necessary to receive an appointment is the replying in a perfunctory manner and in indifferent English to a few casual questions on ordinary every-day practice, notwithstanding that the information furnished by the Adjutant General's office is very clear and explicit, but this they consider as a "bluff," hence the reason why so many of them fail to remain with the examining board after the first day's work.

In reply to the second question it will be said by all of us, I have no doubt, that Congress has not done enough for the veterinary service in the Army; we should at least have the rank of first and second lieutenants in recognition of our attainments and education.

I am a believer in organization. I am a believer in a veterinary corps for that matter, but I am ready to waive the corps formation, as such a formation would necessarily demand one or more veterinarians with high rank, which I am of the opinion the War Department is opposed to.

If the rank of first and second lieutenants was granted, one man from the Cavalry and one from the Artillery could be selected to systematize things and get them into proper running order; as it now stands there is no system, no reliable records, no comparison of results; the conscientious, painstaking man does his work believing that the consciousness of a duty well performed is a rainbow in the soul, while the shiftless individual becomes a time-killer and a clog upon its wheels, slurs his work and neglects his duty.

There is no merit for the former outside of his own mental

satisfaction, and no censure for the latter except that which comes to him when he accidentally reads of some great achievement in veterinary medicine in which he has not aided even by the formation of a thought.

Here in the Army it is customary to destroy thousands of dollars worth of horses on the diagnosis of glanders made by one veterinarian assisted by a board of officers; the veterinarian may be correct in his diagnosis or he may not; if he be of the conservative and conscientious kind he will invariably call for a consultation with a colleague before he sacrifices the life of a single animal and disturbs the peace of his command, even if he is positive of his diagnosis; after such consultation he will confirm it by an autopsy before further steps are taken; while the time-killer, the unthinking, the unread, and unstudious is very apt to jump at conclusions; his narrowness of view prevents his calling for consultation; it is child's play to lead a "glanders board" to believe what he wishes them to believe; glanders is declared; animals are destroyed and buried without autopsy; if one is insisted upon, the time-killer, whose pathology may be shakey, or whose conscience may be blunted, confirms his diagnosis or makes those around believe he has confirmed it, being too small intellectually and professionally to admit he has been mistaken if the autopsy should show negative results.

Are there such men in the Army? it will be asked. I do not know. They exist in civil life in large numbers, and why not in the Army, where there is no check upon their work, no accounting, no reporting; I do know, however, that animals are frequently destroyed for glanders on the diagnosis of a single man. This should not be permitted; the life of an animal suffering from a supposed contagious disease in the diagnosis of which thousands of errors have been made should never be sacrificed on a one-man declaration if another veterinarian is at all available for consultation; if they disagree a third must be called.

I am afraid I have digressed the bounds of my subject, but it tends to show at least one weak spot that could be made strong by organization.

Our need, as it appears to me, is simply this, and it must come through the War Department—rank and organization.

Those with ten years service or over to be given the rank of first lieutenants; those with less than ten years service to be given the rank of second lieutenants, provided, however, that

upon serving ten years those with the latter rank shall be given the rank of first lieutenant.

When this has been accomplished two live men, and I could name a number of them, could be selected, one from the Cavalry and one from the Artillery, to organize and systematize the work in their respective branches of the service and be prepared to handle and systematize the work of the veterinarians of the Quartermaster's Department when needed and if so desired.

It might not be amiss here to ask, what is to become of the old veterinarians of long service in the Army when they are no longer able to perform their duties if the privilege of retirement is denied them?

Does not years of hard service and perpetual discipline on their part count as much for them as it does for the enlisted man or the commissioned officer? There can be no civilians in the Army holding rank; the fact cannot be gotten over that Army Veterinarians are soldiers and as such are entitled to the rights of a soldier.

These are my convictions; they are given in all honesty and after years of thought.

GERALD E. GRIFFIN,
Veterinarian Artillery Corps.

"IMPOSSIBLE to practice intelligently without the REVIEW."—(*C. D. Tuttle, V. S., Canton, South Dakota.*)

"I AM a warm friend of the REVIEW."—(*J. R. Grove, V. S., Cerro Gordo, Ill.*)

ONE of the attractions of the Barnum & Bailey show this year is a forty-horse team—the largest, no doubt, that ever pulled a band wagon. The animals composing it are the pick of three hundred fancy draught horses recently sold by a New York firm to Barnum & Bailey for $100,500. They are hooked four abreast in ten rows. One man drives them all.

A .DOUBLE BAR-SHOE has recently created a great furore among horsemen at Memphis, Tenn., and among horse-shoers all over the country. It consists of a bar at about the point of the frog and another at the heel, and it is claimed that it greatly increases the speed of trotting horses. A young Englishman named W. H. Lake claims to have invented it, and is endeavoring to protect his rights by asking horse-shoers to pay five dollars each before attempting to make any of the shoes. But it is claimed, on the other hand, that they were used twenty-five years ago by the late Robert Bonner, who found that they were only adapted for certain horses; in others it produced muscle and tendon soreness.

CORRESPONDENCE.

DR. GRIBBLE COMPLETES A CASE REPORT.

WASHINGTON C. H., OHIO, July 10, 1903.

Editors American Veterinary Review:

DEAR SIRS:—On receipt of the July REVIEW and noticing our "Diagnostic Puzzles," which we had completely forgotten, we realized that patient No. IV was long ago dead, and that its *finale* should have been included in the description. This colt was foaled Aug. 12, 1902; I first saw it Nov. 30, 1902; it died March 1, 1903—being thus less than seven months old.

The colt gradually grew worse until it retained no food at all and starved to death a few weeks after we reported the case as published. On post-mortem examination no anatomical or pathological defects were found in the mouth, palate or pharynx nor in the œsophagus until the anterior face of the diaphragm was reached, where directly against it was a dilatation fully one-third as large as the foal's stomach. This dilatation was practically all laterally and inferiorly, the superior plane of the œsophagus being normal. The lumen of the short section of the œsophagus between the dilatation and the stomach was almost obliterated, being so constricted as to barely admit the passage of a lead pencil.

On incising this dilatation its walls were found to be fully as thick as those of the œsophagus proper and its lining exactly the same. This thickening was a surprise to us, for, while we had expected to find a diverticulum, we supposed its walls would be thin, just as in blowing up a bladder; the larger we make it the thinner it becomes. Yours very truly,

WM. H. GRIBBLE.

A YOUTHFUL OBSERVER REPLIES TO DR. DALRYMPLE.—Master Vernet E. Skeen, of Fowler, Indiana, writes to the REVIEW as follows, under date of July 8: "In reply to W. H. Dalrymple, M. R. C. V. S.', appeal for experience, I am a thirteen-year-old boy. I have been raised on a stock farm. My father is a veterinary surgeon with a large practice. He has noticed it [a constant abrasion on the outside of the hocks of foals], but did not know exactly what caused it. The colt gets its mouth astride of the tibia and with its upper teeth rubs up and down until it stops the itching. I have noticed a number of colts from birth."

SOCIETY MEETINGS.

AMERICAN VETERINARY MEDICAL ASSOCIATION.

FORTIETH ANNUAL MEETING AT OTTAWA, CANADA, SEPT. 1, 2, 3, 4, 1903.

Secretary Repp furnishes the REVIEW with the following very exhaustive and satisfactory programme for the approaching meeting, under date of July 20:

Headquarters.—The headquarters of the Association will be at the Russell House. A special rate of $2.50 up has been made at this hotel and it has accommodations for 300 guests. In addition to this the members and visitors may have the choice of the following hotels at the rates set forth: The Windsor, $2; the Grand Union, $2; the Gilmour, $1.50-$2; the Brunswick, $1. All of these hotels are on the American plan and are recommended by the Local Committee as reliable. The committee will have a list of apartment houses in which rooms may be obtained if desired. Accommodations may be arranged for in advance by writing direct to any of the hotels or to Dr. J. G. Rutherford, Ottawa, Canada, Chairman of the Local Committee.

Place of Meeting.—The sessions of the meeting will be held in the auditorium of the City Hall, which has been placed at our disposal by the city authorities. This room is well suited to our purposes. Special Committee Meetings, Russell House, Monday, August 31, 1903; Finance Committee at 4 P. M.; Publication Committee at 5 P. M.; Executive Committee at 8 P. M.

PROGRAMME.

First Day—Tuesday, Sept. 1, 1903.

8.30 A. M., regular meeting of Executive Committee.

9.30 A. M., Association assembles.

Address of Welcome, Hon. Frederick Cook, Mayor of Ottawa.

Response.

President's Address.

Roll call.

Minutes of last annual meeting.

Unfinished Business of last meeting.

Reports of Regular Committees: Executive, Finance, Publication, Intelligence and Education, Diseases.

Reports of Special Committees: Army Legislation, Local

Arrangements, Pharmacopœia, Standard of Excellence and Soundness, Resolutions.

Report Treasurer.

Report Secretary.

Reports of Resident Secretaries.

Discussion of Reports.

New Business.

Election of Officers.

It is desirable to open the meeting promptly at the time stated, and to expedite the business of the Association as much as possible, so that some of the papers may be presented on the first day.

Second Day—Wednesday, Sept. 2, 1903.

8.30 A. M., Executive Committee meeting.

The second day of the meeting will be devoted to a trip to the Pine Grove Stock Farm of W. C. Edwards & Co., at Rockland, Ontario. The trip will begin at a seasonable hour in the morning, the time to be announced later, and will end at about 6 P. M. During the forenoon the visitors will be treated to an exhibition of the many fine pure-bred animals of various species which Pine Grove Farm affords, and will make a tour of various interesting parts of the establishment. At least part of the afternoon will be devoted to that portion of the literary programme which deals with the subject of tuberculosis. This embraces the following papers:

"Unusual Lesions of Tuberculosis Found in Abattoir Inspection," Dr. R. H. Harrison, Milwaukee, Wis.

"The Bang System for the Eradication of Tuberculosis in Cattle as Practiced upon Pine Grove Stock Farm, Ontario, Canada," Senator W. C. Edwards, Rockland, Ont.

"Bovine and Human Tuberculosis," Dr. D. E. Salmon, Washington D. C.

"A Critical Microscopic Study of a Case of Tuberculosis in a Cow," Dr. John J. Repp, Ames, Iowa.

I am informed by Dr. Leonard Pearson that the report of the Committee on Diseases, of which he is Chairman, will deal largely with the subject of "Immunization of Cattle Against Tuberculosis," and it is not to be doubted that this report will be made at this time. This will give us a feast day upon that all-absorbing subject of tuberculosis, which cannot but be uppermost in the minds of all. It is thought that circumstances may also permit of the presentation of some other papers at this session. This journey to Rockland will be one long to be remem-

bered by all who avail themselves of it. If the weather should be unfavorable on Wednesday, the Rockland trip will be reserved for Thursday. There is a fine auditorium at Rockland, which can be utilized should the day turn out to be an inclement one.

8.00 P. M.—Association assembles. This session is set apart for the presentation by Dr. Wm. Dougherty, Baltimore, Md., of his plan for the formation of a Mutual Benefit Society of the Veterinarians of the United States and Canada. This is a matter which has been engaging the attention of prominent members of the Association for a long time and this session should have a full attendance. It is hoped that one or more papers may be read and discussed at this session.

Third Day—Thursday, Sept. 3, 1903.

8.30 A. M., Executive Committee meeting.

9.30 A. M., Association assembles.

Report of Executive Committee.

"An Outbreak of Epizoötic Encephalitis of the Horse in South Carolina," Dr. G. Nesom, Clemson College, S. C.

"Veterinary Dentistry: Its Use and Abuse," Dr. T. S. Childs, Saratoga Springs, N. Y.

"The Importance of Veterinary Science to Agriculture," Hon. Sidney Fisher, Minister of Agriculture, Ottawa, Canada.

"The Effect of Certain Drugs upon Blood-Pressure and Cardiac Inhibition in the Horse," Dr. Pierre A. Fish, Ithaca, N. Y.

"Nitroglycerine," Dr. S. S. Whitbeck, Decorah, Ia.

"Immunization of Hogs Against Cholera," Dr. G. W. Dunphy, Quincy, Mich.

"Experiments with the Stomach Worm in Sheep," Dr. A. S. Wheeler, Biltmore, N. C.

"Canine Distemper," Dr. Lemuel Pope, Jr., Portsmouth, N. H.

"Trypanosomiasis with Demonstration of the Trypanosome of Nagana (Tsetse Fly Disease), Dr. H. W. Thomas, McGill University, Montreal, Canada.

"Cow-Pox, Varicella and Furunculosis in the South," Dr. C. A. Cary, Auburn, Ala.

"The Uses of Mallein in Dealing with Glanders," Dr. J. G. Rutherford, Ottawa, Can.

"Meat and Milk Inspection," Dr. M. E. Knowles, Helena, Mont.

"Vesicular Exanthema of Horses," Dr. Paul Fischer, Columbus, O.

"The Veterinarian in the Poultry Yard," Dr. Cooper Curtice, Kingston, R. I.

"Anthrax and Blackleg," Dr. Charles H. Higgins, Ottawa, Can.

"Colics and Obstruction of the Small Intestine," Dr. J. F. DeVine, Goshen, N. Y.

"Malignant Tumors," Dr. D. King Smith, Toronto, Can.

Fourth Day—Friday, Sept. 4, 1903.

CLINIC.

The clinic will be held in Dey's Rink, a large and commodious building situated conveniently in the city. The Local Committee, on account of the difficulty in ascertaining far in advance just what cases will be available, is not yet ready to announce the complete programme for the clinic. It is expected that there will be presented for operation two roarers and that there will be a case of extensive umbilical hernia, two cases of perneo-tibial neurectomy and other neurectomies. There will also be some cases of internal disease presented for diagnosis and treatment. The committee gives assurance that competent clinicians will participate in the clinical work and that this part of the meeting will be found very interesting and instructive.

ENTERTAINMENT.

The Local Committee has arranged for a series of very enjoyable entertainments, especially for the ladies and children who are fortunate enough to be able to attend the meeting. These include a tour under expert guidance through the Houses of Parliament and other Government Buildings, including the Marine and Fisheries Museums and that of the Geological Survey. There will be a trip to the Chaudiere Falls and an afternoon on the beautiful grounds of the Central Experimental Farm. Also a trip to Brittania, which is situated on the shore of the charming Lake Duschene, the journey being made by trolley car.

The banquet will take place at the Hotel Victoria at Aylmer in the Province of Quebec, 10 miles from Ottawa, reached by a lovely ride along the Ottawa River on the electric railway. The banquet will likely take place on Thursday evening. Then the trip to Pine Grove Farms, Rockland, Ontario, some 20 miles down the Ottawa River from Ottawa, arranged for through the courtesy of the Honorable Senator Edwards, of the Canadian Parliament, the proprietor of the farm. This has already been referred to above. The trip will be made by boat

on the Ottawa River and will be an extremely delightful one. The ladies and children will, of course, go to Rockland and it will be seen that they are adequately entertained while the literary programme set apart for the day at Rockland is being disposed of by the members.

All may be assured that the Local Committee will see to it that there may be no dearth of entertainment and that there will be no speculation as to what shall be done next.

TRANSPORTATION ARRANGEMENTS.

The Grand Trunk Railway, Canadian Pacific Railway and Canada Atlantic Railway have granted a special rate of 1⅓ fare, certificate plan, for 50 or more in attendance. The New England Passenger Association, the Trunk Line Association and the Central Passenger Association have granted a rate of 1⅓ fare, certificate plan, for 100 or more in attendance including members and visitors, as has also the Western Passenger Association.

The Wabash Railroad from Chicago and points west to Detroit and the Canadian Pacific Railroad from Detroit make a continuous route without change to Ottawa. These roads, which are coöperative and thus practically one line, offer special equipment from Chicago to Ottawa. A party will be arranged for to rendezvous in Chicago and journey from there by special train, if numbers justify, to Ottawa without change. This is manifestly the most eligible route for those from the West and Northwest. An effort, which promises successful issue, is being made for the alternative of a water trip from Smith's Falls to Ottawa by special boat of the Rideau Lakes Navigation Company. This is a very beautiful waterway and this will fit in well with the other parts of the pilgrimage. It will be arranged by the Wabash and the Canadian Pacific Railroads as part of their transportation facilities.

As the Detroit and Buffalo steamboat company is a member of the Central Passenger Association, which has granted a special rate of 1⅓ fare, it is likely that those from territory west, north and south of Detroit may arrange for a water journey between Detroit and Buffalo. Those who decide to forego the advantage of the special rate for at least part of the trip can, of course, elect any water route they may choose.

The Local Committee has arranged for the following through and side trips with the General Passenger Agent of the Canada Atlantic Railway, Ottawa, Canada, who will be glad to give any additional information.

FARES FROM OTTAWA.

Montreal—One way $2.50; round trip $5.00. Route—Optional rail or boat (Ottawa River and Lachine Rapids).

Montreal—One way $5.50. Route—Rail to Prescott, boat to Montreal (St. Lawrence Rapids).

Montreal—Round trip $10.75. Route—Rail or boat (Ottawa River and Lachine Rapids) to Montreal, boat to Kingston (Thousand Islands), boat to Smith's Falls (Rideau Lakes), rail to Ottawa. (Applicable in opposite direction.)

Kingston—One way $3.80; round trip $6.60. Route—Rail to Smith's Falls, boat to Kingston (Rideau Lakes).

Clayton—One way $4.80; round trip $8.35. Route—Rail to Smith's Falls, boat to Clayton (Rideau Lakes and Thousand Islands).

Quebec—Round trip $10. Route—Rail to Montreal, optional rail or boat between Montreal and Quebec.

Pembroke—(Upper Ottawa) Round trip $4.75. Route—Rail both directions.

Toronto—One way $8.10. Route—Rail to Prescott, boat to Toronto (Thousand Islands and Lake Ontario). (Meals and berth included.)

Toronto—One way $11.75. Route—Rail to Parry Sound, boat to Penetang (30,000 Islands Georgian Bay), rail to Toronto.

Toronto—One way $12.80. Route—Rail to Parry Sound, Georgian Bay, rail to Maple Lake, stage to Port Cockburn, boat to Muskoka Wharf (Muskoka Nav. Co.), rail to Toronto.

Parry Sound (Georgian Bay)—One way $7.75, round trip $11.60. Route—Rail both directions.

Algonquin Park (Salmon Fishing)—Round trip $7.40. Route—Rail both directions.

FARES FROM MONTREAL.

Quebec—Round trip $5. Route—Optional, rail or boat.

Chicoutimi (Lake St. John)—Round trip $12. Route—Steamer (St. Lawrence and Saguenay Rivers).

Chicoutimi (Lake St. John)—Round trip $15. Route—Rail via Q. & L. St. J. R'y and Roberval, rail to Montreal.

Lake George (Caldwell, N. Y.)—One way $6.50, round trip $11.35. Route—Rail to Plattsburg or Hotel Champlain, rail or boat (Lake Champlain) to Fort Ticonderoga, rail to Baldwin, boat to Caldwell (Lake George), return rail.

Lachine Rapids—Round trip 50 cents. Route—Rail to Lachine, steamer *Sovereign* to Montreal (Lachine Rapids).

FARES FROM TORONTO TO OTTAWA.

Fare, round trip $14.90. Route—Rail or steamer (Lake Ontario) to Kingston, rail or steamer (Thousand Islands) to Brockville, rail to Ottawa.

Fare, one way $9. Route—Steamer to Brockville (Lake Ontario and Thousand Islands), rail to Ottawa.

Fare, one way $12.50. Route—Rail to Brockville, boat to Montreal (St. Lawrence Rapids), rail or boat (Ottawa River) to Ottawa.

Fare, one way $12.50. Route—Rail to Kingston, rail or steamer (Thousand Islands) to Prescott, rail or steamer (St. Lawrence Rapids) to Montreal, rail or steamer (Ottawa River) to Ottawa.

Fare, one way $12.60. Rail to Penetang or Midland, boat to Parry Sound (30,000 Islands Georgian Bay) rail to Ottawa.

Fare, one way $12.80. Route—Rail to Muskoka Wharf, boat to Port Cockburn or Rosseau (Muskoka Lakes), stage to Maple Lake, rail to Ottawa.

CHICAGO TO OTTAWA VIA PARRY SOUND.

Fare, one way $29.75. Route—Boat to Mackinac (Northern Michigan Trans. Co.), boat to Parry Sound (Northern Nav. Co. via North Shore Georgian Bay), rail to Ottawa. Meals and Berths included on steamers.

NOTE—Meals and Berths are extra on steamers unless otherwise noted.

In order to secure the special rate the going-ticket must be purchased between August 28 and Sept. 2 inclusive and the return-ticket must be purchased *before* Sept. 8.

The Dominion of Canada Industrial Exhibition will be held in Toronto, Ontario, August 27th to Sept. 12. The officers of this Association have not yet arranged for rates with the transportation companies, but it would be advisable for those living within the territory in which special rates will be made for this exhibition to inquire what these rates are so that they may avail themselves of any advantages they offer. On completing the stay at Toronto a ticket could be purchased for Ottawa and a certificate for it taken.

Further particulars concerning all matters relative to the meeting will appear in the programme which will be sent out early in August, and which will be distributed to all veterinarians in the United States and Canada and others who may request it.

Respectfully,

JOHN J. REPP, *Secretary.*

CONNECTICUT VETERINARY MEDICAL ASSOCIATION.

The semi-annual meeting of this Association will be held this year in New Haven instead of at Hartford as formerly. Through the invitation of Dr. Edward Ross the meeting will be held at his hospital, No. 11 Orange Street, Tuesday, August 18th, 1903, at 10 o'clock A. M.

An interesting clinic will be provided with especial preparations for surgical operations to be performed by some of Connecticut's well-known veterinary surgeons.

Three subjects have been selected for discussion, viz.: "Azoturia," "Canine Distemper," and "Scrotal Hernia."

The committee of arrangements hope to make this the most

pleasant and profitable, with the largest attendance of any meeting the Association has yet held. B. K. DOW, *Secretary.*

VETERINARY MEDICAL ASSOCIATION OF NEW JERSEY.

The semi-annual meeting was held Thursday, July 9th, 1903, on the grounds of the U. S. Animal Quarantine Station, Athenia, N. J., and convened at 10 o'clock A. M., Dr. Wm. Herbert Lowe, President, in the chair.

The following members were in attendance: Drs. Bridge, Buckley, Budd, Churchill, Conover, Dilkes, Everitt, Ferguson, Forsythe, Fredericks, George, Glennon, Gray, Harker, Harrison, Hasbrouck, Hogan, Hopper, Kehoe, Loblein, Wm. Herbert Lowe, J. Payne Lowe, Magill, McCoy, McDonough, Mecray, Mosedale, Pope, Reagan, Ripley, Rogers, Runge, T. E. Smith, Stage, Treadwell, Tuttle, and Vliet. Visitors present were: Dr. D. E. Salmon, Chief of the Bureau of Animal Industry; Dr. Pearson, State Veterinarian for Pennsylvania; Dr. Blair, Veterinarian to the New York Zoölogical Society; Dr. Leal, M. D., President of the New Jersey Sanitary Association; Dr. Jas. L. Robertson, of the New York-American Veterinary College; Col. S. R. Burch, Chief Clerk of the Bureau of Animal Industry, and Drs. Chritcherson, Hallock, Bouldin, Montague, Cooper, Lindsay, Herbert, Bride, Lyman, Gardner, Ford, Degraw, W. H. Lowe, Jr., and Mr. Downs, veterinary student.

The Secretary read the minutes of the annual meeting held at Trenton on January 8th, 1903, which, on motion, were duly approved.

Dr. Archibald McBride, of Jersey City; Dr. James L. Lindsay, of Jersey City, and Dr. F. C. Herbert, of Plainfield, were elected to membership.

Reports of Committees.—Dr. Runge, Chairman of the Public Health Committee, reported progress.

Dr. J. Payne Lowe, Chairman of the Animal Industry Committee, reported progress, and also that the committee was working in harmony with the President toward the formation of a State Board of Animal Industry.

Dr. Rogers, of the Conference Committee, reported that as the result of a committee meeting held at Trenton it had been possible to place Dr. Lowe upon the State Tuberculosis Commission.

Reports of Delegates.—Dr. Budd, delegate to the Atlantic City Horse Show, reported his intention of attending the horse show in the capacity of official veterinarian, and stated that he would be glad to be of service to any of the members of the Association who might be in attendance. Dr. Budd related some of his experiences as veterinarian at the Atlantic City Horse Show last year, and said he would report upon the subject at the next meeting of this body.

Dr. Tuttle, one of the delegates to the New Jersey Sanitary Association, reported that he expected to attend the convention of that Association to be held in September, after which he hoped to be able to report something of interest to the members.

Secretary's Report.—The Secretary called attention to the action at the meeting of January 8th, appointing a committee to investigate the cases of delinquent members. That committee had made a recommendation that certain members be dropped from the roll, not alone for non-payment of dues, but in some cases for conduct unbecoming gentlemen (it seemed that they had not treated the committee courteously and had ignored communications sent them by the committee). In one case, that of Dr. Holdenby, a recent letter had been received stating that owing to a change in his place of residence the communication from the committee had not been received. The letter requested reinstatement and was accompanied by a check covering all dues to date. Upon motion of Dr. Hopper, it was unanimously voted that Dr. Holdenby be reinstated in the membership of the Association.

Membership in the State Board of Agriculture.—It was reported by the President that the request of the Association for membership in the State Board of Agriculture was granted at a meeting of the Board held January 14th, 1903, and the President had accordingly appointed as delegates Dr. Harker, of Trenton, and Dr. Pope, of Athenia.

Official Register of Veterinarians.—President Lowe further reported on the subject of the official register of veterinarians; that the present edition was published in 1900 and it was desirable that a revised edition should now be printed, bringing the register up to date, or up to May 5th, 1902, the time when the new law went into force. Since that date the official register of licenses granted could be referred to. On motion, duly seconded, it was voted that the "Veterinary Medical Register of the State of New Jersey" be revised to May 5th, 1902.

Obituary.—The Chairman reported that since the last meeting one of the members, Dr. R. R. Letts, of Allendale, had died, and at the time of his funeral the President had appointed a representation from the Association to attend the funeral and provide a suitable floral piece. On motion, the following were appointed a committee to draft resolutions of respect to the memory of Dr. Letts: Dr. T. E. Smith, Dr. J. B. Hopper and Dr. J. B. Finch. A letter of acknowledgment was read from the widow of Dr. Letts, thanking the Association for the floral piece sent to the funeral.

Passaic County Veterinary Association.—The Chairman called upon Dr. Cooper, of Paterson, one of the guests, to state the progress made in the local association of Passaic County. Dr. Cooper in response said that there were at present nineteen members, representing one hundred per cent. of the practitioners in the county; that they had all paid their dues to date; the meetings were well attended, and for a local association it was accomplishing excellent work.

Committee on Legislation.—The President, on behalf of the Committee on Legislation, stated that the committee found it necessary to spend a good deal of time in Trenton last winter, not only to protect and safeguard the present legislation (the Act of 1902), but with the assistance of loyal members wherever called upon the committee had been able to kill any bill introduced antagonistic to the present law; for instance, Assembly Bill No. 212 introduced in the interest of South Jersey and providing for the reopening of the veterinary registration books. It was apparently an innocent bill, but if passed it would have allowed the registration of not only the quacks of this State, but of New York, Pennsylvania and every other State to be registered as practitioners in New Jersey. Dr. Hopper was of great assistance in putting the bill to sleep in committee, and it never went before the House. There were a number of bills introduced which were not allowed to become laws, and as the next session of the Legislature will probably bring forth more adverse legislation it was quite necessary for the Association to keep the Legislation Committee alive, as it will have much important work to do next winter. There were several bills passed by the Legislature of interest to the Association; one the Automobile Law of 1903, which requires that every motor vehicle shall on the raising of his hand or other signal by the driver of a horse come to a full stop and remain standing until the horse has passed the motor vehicle. Another bill passed is known as the

Speedway Bill, which allows the Board of Freeholders of any borough to borrow money to purchase lands for speedways, the amounts not to exceed $100,000, issued in bonds. Another bill was an amendment of the original Medical Law, known as Chap. 228 of the Laws of 1903. This amends in several important particulars the Act of 1894 regulating the practice of medicine and surgery (that is, human medicine and surgery) in the State. The clause of interest to this Association is that providing that the act shall not apply to any legally licensed veterinary practitioners, so that they are doubly safeguarded, not only by their own law but by the medical act, because the only men exempted in that act are the legally licensed veterinary physicians, surgeons and dentists of the State. Those not legally licensed and registered are liable to the penalties of the Act. The President said that another part of the work of the Committee on Legislation he wished to particularly call to the attention of the Association was that of prosecuting violators of the law. This matter must be carried forward in a determined manner. The policy of the Committee has been to select a few of the most flagrant violations and make an example of them. Of course, there were many minor violations of the law which the committee could not go into; but the President thought that a few successful prosecutions would prevent others from attempting to violate the law. The tendency to violate the law in the large cities was not so great as it was in the country districts. The President assured members that no stone would be left unturned to carry on prosecutions whenever there was sufficient evidence to convict.

Dr. Hopper said he thought the Legislative Committee should keep up their work unceasingly, and made the suggestion that as soon as any bill was introduced into the Legislature affecting the interests of the Association the Committee should immediately notify the Secretary, who should send out notice to every member of the Association, who could then see the Senators and Assemblymen in their respective counties, either in person or by letter, and thus bring a great deal of influence to bear to kill any proposed measure adverse to the interests of the profession. Dr. Hopper thereupon offered the above suggestions as a motion, which was carried.

In this connection Dr. Budd called attention to the valuable work done at Trenton last winter by the President, Dr. Wm. Herbert Lowe. He did not know how the Association could ever compensate Dr. Lowe, who had sacrificed his practice, his

home and his social relations in looking after the interests of this Association at Trenton last winter, and he thought the Association ought to recognize this in some way. The following motion, duly seconded, was put to vote by Dr. Budd and unanimously adopted: "*Resolved*, That the hearty thanks of this Association be extended to our President, Dr. Wm. Herbert Lowe, for the good work he performed in the interests of the Association at Trenton during 1902-1903 session of the Legislature."

Dr. Runge Reports Interesting Cases.—Dr. Runge submitted a photograph of a man who died from glanders in the German Hospital in Newark on June 2, 1903. He said the disease had been quite prevalent in Essex, Hudson and Bergen Counties, and especially in the City of Newark. He said: "Glanders is a contagious constitutional disease of the horse, ass, and mule, readily communicable to man, sheep, goats, to the dog, cat, the rabbit and guinea-pig. It runs a variable course until it produces the death of the animal affected with it. It is characterized by the formation of neoplasms of connective tissue, or nodules, which degenerate into ulcers, from which exude a peculiar discharge. It is accompanied by a variable amount of fever, according to the rapidity of its course. It is subject to various complications of the lymphatic glands, of the lungs, of the testicles, of the internal organs and of the subcutaneous connective tissue. I do not intend to give a lecture on the different forms of glanders, as I am well aware that every one of the gentlemen present is acquainted with the disease, but I intend to state a few facts which I have observed during the last outbreak in Newark, N. J., for a period of about six months. I saw about 140 cases of glanders, about 85 per cent. of which were of the chronic form as proved by post-mortem. In Newark we had from January 1 to June 21, 141 cases of glanders, in every one of which a post-mortem was made. During the first month I started with ten. Those were isolated. Then we isolated ten more. Out of those all but two were chronic cases. The cases isolated did not show any external symptoms, but I quarantined every horse whose temperature ran above 101° for any length of time. I had a special stable for the purpose, where I made the mallein test and got reaction in every one of these cases. The horses were in fairly good condition; those ten horses were not worked for three or four weeks, and they picked up flesh and some of them got quite fleshy. For five or six days their temperatures ran from 101½ to 103; then it became almost

normal, dropped to 100 or 100⅗ in some of them, and remained there for a week and then it rose again. I put these horses at work on delivery business, where they could not come in contact with other horses. They remained in good flesh five or six weeks, and then I found their glands were beginning to swell. In the middle of April I decided to kill one of the horses, as I could not heal the sore. We killed that horse and the post-mortem showed chronic pulmonary glanders. I decided to kill four more. Those were partly run down; and as the temperature of the others kept running high I decided to kill all but two. I found in every one pulmonary glanders, as well as in the spleen, liver and the internal glands. These last two had not had a temperature in over six weeks, but they had given reactions to mallein the same as the others. I had nothing to do with them before January 1, and I do not know when the real infection took place, but undoubtedly some of them had been infected for some months previously. The picture I brought is a man by the name of Mayer, who died in the German Hospital, Newark, on June 2. How the man became infected no one knows. He was a mechanic and great animal lover; if he saw a horse on the street he would go up and rub his head and put his head alongside the horse's head. His glands swelled and there was a discharge from the nose and ulceration of the nose for six months before he was sent to the hospital for treatment. He was brought to the hospital about May 20. Dr. Connely, the bacteriologist of the Newark Board of Health, made a microscopical examination of the scrapings of the sore upon his face. I made cultures from the scrapings of that sore on May 24 and injected three guinea-pigs right in the peritoneal cavity. Two died the same night, really before I could expect anything. The last one died in three days with a suppurated scrotum. I examined the pus from that scrotum and found bacilli. On May 27 I injected a horse with the some culture and 1 c.c. of the mallein on each shoulder, and 1 c.c. in the trachea. I let that horse live until July 3; found no symptoms, no rise in temperature except about ten or twelve days afterward, which would be about June 10, when the places where the injections were made suppurated, being more or less contaminated, I suppose. I then killed the animal, and found no symptoms whatever except an enlargement of the bronchial glands; but these bronchial glands contained the bacillus mallei; whether that horse was infected, or whether the germs had lost their germinative quality, I am unable to say. I was unable to go any further

with my experiments from the cultures taken from the man who died. I have forgotten to mention one point in connection with the horses I had isolated. Those horses from time to time which showed small buttons, two or three, in the neighborhood of the collar, and one of them had an abscess over the rump quite deeply located. I opened these, and the pus ran out freely and the sores would heal up within four or five days. I did not use any antiseptics at all. I took the pus of three of those horses and injected guinea-pigs and I found glanders produced in those guinea-pigs. When I decided to kill those horses, which I did afterward, I found chronic pulmonary glanders in the horses which had had the buttons or ulcers, which healed up very readily, but I was unable to find the bacillus. The question in my mind is whether there will always be bacilli in the buttons when they have chronic glanders. I could not decide the question, as I had no means of pursuing the investigation further. I think mallein is the best assistant we have in these cases. The reaction caused in every case was quite marked. Though my experience is in chronic cases, you do not get much local reaction. You get reaction in temperature. But if we have reason to believe that a horse has chronic glanders, if we get any reaction at all, I would call it a suspicious case."

Dr. Harrison Reports.—"I have had some little experience, acting as sanitary inspector for the State Board of Health. The disease is pretty generally distributed throughout the upper part of New Jersey, especially Essex, Bergen and Hudson Counties. It appeared to me at one time as if the outlook was somewhat grave. In regard to what has been said about the mallein test, about a year and a half ago I tried some experiments and got what we believe to be typical reactions. The first case on which post-mortem was made, the pulmonary indications of glanders were well marked. We killed three others, but could not find any lesions whatever of glanders. We concluded to send seven other horses which were under suspicion back to work, under restrictions. Six months after that two of the horses died or were killed with glanders. Five of the horses are to-day working, seemingly in good condition. For these reasons, I think that mallein is not always infallible. These horses were working hard the last I saw of them, about two months ago; that covered a period of about 17 months." Dr. Harrison called attention to a peculiar development of the epidemic of glanders along the highways between Newark and Bloomfield and from Newark to Jersey City, and in his opinion the disease was de-

veloped and spread through the numerous drinking troughs and fountains. "There is one at the top of the mountain in Montclair, in front of the Mountain House, where there were some horses infected. I saw eight cases in Bloomfield, and there were five or six in Caldwell, and I heard that all along the plank road to Jersey City there were a number of cases. And I think as long as the drinking fountains are allowed to stand without any attention by way of disinfecting them, a disease like glanders is bound to spread. I understand New York City is having considerable trouble with that same disease just now. We all know that there is a constant travel between New York and Northern New Jersey towns. With all due respect to the gentlemen constituting the Board, I think the policy of the State of New Jersey is short sighted, to say the least. I believe that we must establish a Bureau of Animal Industry with a veterinarian at the head of it. I believe the time is ripe to begin, and we cannot begin too soon, and I believe if we all work to the right end we will have very little difficulty in getting such a bill through." (Applause.)

Dr. Leal, President of the New Jersey Sanitary Association, is Introduced.—Dr. Leal said: "The New Jersey Sanitary Association is composed of all classes who are interested in the subject of sanitation, or the protection of the public health. Two years ago, realizing the importance of the relation which veterinary medicine holds in this respect, our Association formed a committee on animal diseases and animal foods. The committee is composed principally of physicians, lawyers, teachers and engineers. It is deemed quite important that we should have on the membership list of our Association those having a specific knowledge of the subject of veterinary medicine. If I may be allowed a suggestion, I would suggest that this meeting form a committee to attend the next convention of the State Sanitary Association, and at the next meeting of our Association I will suggest the setting apart of an hour for the discussion of this important subject. I will make that as a suggestion at this time, Mr. President, and I can promise you a hearty welcome from the State Sanitary Association." Dr. Leal stated that the only requirements for membership in the New Jersey Sanitary Association were an interest in the subject of preventive medicine, the preservation of the public health, an interest in the welfare of the community at large and the payment of two dollars a year.

Dr. Leonard Pearson is Introduced.—Dr. Pearson said: "I

did not expect to be called upon to say anything. I was attracted to this meeting by the exceedingly interesting programme I received from your Secretary a short time ago, and also by a desire to see this new quarantine station. I understand that one of the chief subjects before you is the organization of a live stock sanitary board for the State of New Jersey. I sincerely hope it will be possible to secure the enactment of a law creating such a board. You have the precedent of at least one adjoining State, and a great many sister States in the country; and I believe that wherever such boards have been established, it has brought about a marked improvement over the system which preceded its establishment. I am sure this will be the case in New Jersey. The present division of authority that you have in regard to the control of the diseases of animals is exceedingly confusing and must cause a good deal of delay which works to the injury of the owners of live stock. There is no reason why such control should not be centered in such a board, and of course you will see to it that there is appointed upon that board at least one veterinarian, and perhaps two or three. Some years ago there was considerable opposition on the part of live stock men to the establishment of such boards. This was especially true in the Eastern States, largely from fear that veterinary boards might be unreasonable in establishing regulations which might prove burdensome. But wherever such boards have been established these forebodings have not proven to be well founded. I know of no case where a live stock board has been oppressive or unjust, if there was a veterinarian on that board. The few cases where the boards were oppressive and unreasonable were where they were composed of live stock men. In Pennsylvania the live stock board during the last year has had more earnest support than in previous years. In addition to the regular fund of $45,000 per annum, the Legislature has appropriated an additional $25,000. With this it is proposed to establish an experimental station and run a farm for researches in vaccination against tuberculosis, and to follow other lines of research. I think that is very encouraging to live stock men not only in Pennsylvania but in adjoining States."

Dr. James L. Robertson, of the New York University, made a few remarks endorsing what had been said in favor of placing a veterinarian at the head of State veterinary work.

State Board of Veterinary Examiners.—Dr. Rogers said: "As a member of the New Jersey State Board of Veterinary Examiners, I think it my duty to bring before this Associa-

tion the condition of affairs in that board. Since the board was established we have examined three candidates. I leave you to infer from past experience how many would have settled in this State in that same time, if it had not been for the existence of that board. We are doing all this at our own expense, and I estimate that the members of the board have expended out of their own pockets about $200 for the good of the cause. We now have on hand a number of prosecutions, and I think it is a question for this Association to consider whether they cannot give us a little financial aid in these prosecutions." It was resolved, that the State Board of Veterinary Examiners be authorized to draw upon the Treasurer for the amount of money required to conduct the prosecutions of the violators of the State law regarding illegal practitioners in the State of New Jersey.

Meeting of the American Veterinary Medical Association at Ottawa, Can.—It was resolved, that the Chairman be requested to appoint a committee of as many as he may deem necessary to attend the meeting of the American Veterinary Medical Association at Ottawa, Can., during the first week in September.

Recess for Luncheon.—At 1.10 P. M. the meeting adjourned for luncheon, reconvening at 2.30 P. M.

Dr. Lowe Introduces Dr. D. E. Salmon.—The Chairman: "Those of you who attended the Trenton meeting doubtless recollect the recommendation I made regarding the establishment of a State Bureau or Commission of Animal Industry. I think if there was any one who doubted the feasibility and wisdom of the establishment of such a commission at that time, his doubts are dispelled by this time. At that meeting no less an authority than the distinguished and able President of the State Board of Agriculture, Dr. Voorhees, expressed himself in a very clear and forcible manner upon the advisability of merging the several branches of animal industry and veterinary science of this State under one head and under competent veterinary direction. Hon. Franklyn Dye, Secretary of the State Tuberculosis Commission, also Secretary of the State Board of Agriculture, took occasion to voice his sentiments in favor of the proposition, and we all know, and especially those who practice in the northern cities of the State, how the prevalence of glanders in these cities has proved the necessity of placing this matter under proper professional direction. Not long ago we were very much alarmed for fear that foot-and-mouth disease would get a footing in this State, and I must say it is no credit to the or-

ganized or unorganized efforts of the authorities of this State that the disease did not enter the State; but the credit is due to the enlightened and far-seeing head of the Federal Bureau of Animal Industry, who took such measures where the disease first made its appearance to exterminate the disease before it could gain a foothold in our State.

"Then, again, it was a great pleasure to have Dr. John L. Leal, President of the New Jersey Sanitary Association, express himself so freely, as he did before luncheon, in regard to the feasibility and advisability of the work of the animal industry forces and the veterinary sanitary work of the State being merged under such a commission or bureau as has been proposed. Then, again, we have the encouraging words of Dr. Pearson, the State Veterinarian of Pennsylvania, who has been eminently successful in organizing the work in that great commonwealth. But these matters are not the only things we have to encourage us in this great work that we have undertaken in this State. We are fortunate to-day in having with us the man who organized the Bureau of Animal Industry of the United States Government, the man who developed that Bureau to be what it is to-day, and which I can say without any exaggeration is the greatest bureau in the world. So I say, we are fortunate in having with us as a co-laborer, and as our friend, Dr. D. E. Salmon."

Address of Dr. D. E. Salmon.—"Gentlemen: I am sure you feel that I ought to be a little overcome by these flattering words of your President. I wish to assure you and him that I appreciate them very much. It is a great pleasure for me to meet you here to-day. Indeed, I may say that I have been waiting for a third of a century for this opportunity. It is not only a pleasure to meet you as veterinarians—as members of my own chosen profession—but for many other reasons. As many of you know, I am, like you, a native of the State of New Jersey. (Applause.) I am still loyal to the State.

"I take a pride in the progress and advancement of the veterinary profession of the State of New Jersey, and for that reason I am very glad to welcome you here in this quarantine station of the United States Government, which has been established under the direction of the Bureau of which I have the honor to be the Chief. We waited a long time before we were able to establish a station like this. You perhaps know that the earliest animal quarantine stations of the country were established when inspection of imported animals was under the

direction of the Treasury Department. Those stations were on rented ground, and for that reason they were not built as substantially as they should have been. The buildings were not what you would call sanitary buildings. The grounds were not a credit to a great government like this, wealthy and progressive, and with a tremendous capital invested in animals which are to be protected. On the other hand, they were temporary affairs, wooden buildings, where the drainage would go through the floor and saturate the ground beneath, and where it was impossible to get at them to thoroughly disinfect. Now, we had that sort of quarantine stations for twenty years, and it is only recently that we have been able to convince Congress that it was necessary to have permanent stations built, with all the facilities and conveniences that the knowledge of the present time shows to be essential in a station of this kind.

"I think you will agree with me that this station is well located; that the buildings are well arranged and adapted for the purposes for which they have been built. It was not a very easy matter to acquire this location. Our idea was, first, to have a station on the water front; but it was absolutely necessary to acquire suitable room and space for the isolation of different herds. It was of course necessary that the work should be done quietly, without knowledge of the people who owned the land in the vicinity; otherwise prices would have been advanced to where it would be prohibitive. In buying this station the land belonging to half a dozen or more individuals was taken on options and it was gradually acquired, and after getting through with these business preliminaries, competent experts were employed to devise the buildings, see that they were properly arranged and substantially built. They have been made plain, but at the same time substantial and of the best material, and so arranged that they can be thoroughly disinfected.

"Now, your President has asked me to come here and say something to you about the establishment of a State institution for the control of animal matters, to be under veterinary direction. I presume that someone who understands what has been done and what can be done in the State could speak to you about such a subject better than I, so far as details are concerned; but I may be able to say something from my experience in the conduct of veterinary executive work, which may possibly be of some value in formulating your plans.

"Now, I have tried in the first place to get at the reason for the establishment of something of that kind. The first

thing one wants to know when a proposition of that kind is broached, is the value of the animals in the State which need protection, because in veterinary sanitary matters there are always two points which must be taken into consideration (generally the least important one first, that is, the money value of the property to be protected), the other is, I take it, the protection of the public health.

"I do not remember what the figures are as to the value of animals in this State by the last census. The last census in regard to animals has not been considered as entirely reliable by our Department. So I have taken the figures made up by estimates from the census of 1900, which are approximately correct. I have taken these figures from the Report of the Bureau of Animal Industry, which may be generally relied upon as correct. There are in this State, 165,000 milch cows; other cattle, 74,000; horses, 74,000; mules, 48,000; head of swine, 175,000; sheep, 41,000. The value of these animals in round numbers is sixteen millions of dollars. Now, considering the size and population of the State, that is a considerable investment in animals. It is an investment of such importance, from a financial point of view alone, that it is deserving of the consideration and attention of the State authorities.

"Then, of course, there always comes up the question of public health. The veterinarian must be looked to to protect public health, so far as it is threatened by the diseases of animals. He is the man who has paid attention to these diseases, who has studied animal pathology, who is able to diagnose diseases, say what diseases are actually prevalent, what remedy should be applied, and what sanitary measures are necessary to restrict and control them. He also has to recommend what should be done by the constituted authorities of the State in order to protect the public health.

"Now, there are a number of diseases which of course you are all acquainted with,—which all veterinarians know,—which are always liable to be encountered in any State in the Union, because they are domestic diseases,—diseases which have become established in the country, and which exist everywhere, and which are at any time liable to occur. Among these one of the most important is glanders, the disease which was discussed here this morning. It is a disease which exists in all our cities and in many of the country districts in all parts of the United States. It is brought into the State by shipments from other States, particularly from the western part of the country, where

the disease is very prevalent. Now, that is a disease which not only affects animals, not only has an effect from a financial point of view, but also is injurious to a certain extent to the public health. Every year some people die from glanders—many more than are realized, because the cases are not properly diagnosed. When a case of glanders is diagnosed it is generally on the representation of a veterinarian who has reason to believe the person was exposed to the disease. I have known of cases where the physician was unable to make a diagnosis until the fact of the exposure was made known by the veterinarian who was treating the horse. The mortality from glanders is not great among people, but still it is a serious disease, which everybody dreads,—a disease which is horrible and disgusting and one which is almost invariably fatal.

"While the majority of people escape, it is one that is dreaded by everybody. So, in considering the importance of this disease and controlling it, we must consider both the financial aspect of the case, and the public health aspect, because it is not only the veterinarian—not only the men who attend the horses who are exposed to it, but persons walking along the street are liable to have a bit of glanders pus blown into their eyes from a horse snorting on the street; and it sometimes happens, as it did in the very interesting case you had brought to your attention this morning, that the direct cause of infection cannot be traced between the person affected by the disease and the horse from which he was infected. It is possible that there are persons who contract the contagion in the same way, and die from it.

"Then we have another disease, probably as prevalent as glanders. I refer to rabies, which is becoming quite prevalent in late years in all parts of the United States. Unfortunately, with rabies we have a condition which does not obtain with glanders. The medical profession, as a whole, is more or less skeptical in regard to the existence of rabies, and this skepticism has been cultivated by medical men who have written on the subject and propagated their wrong ideas in the colleges. You know how easy it is to fasten an idea upon a student in a medical college, and how it clings to him, and how hard it is to get rid of it, no matter how incorrect it is, after he gets such an idea driven into his head. Very often you have to wait for that generation to die off and a new generation to come on before you can change its views. That sentiment exists among the medical profession in the United States to-day, and I should not be surprised, if a vote were taken among practicing physicians in the

United States, if there would not be a majority who would give their opinion based on the idea that at least the presence of rabies is doubtful. They might not say 'We don't believe there is such a disease in existence,' but they would say they had reason to doubt it. It is unfortunate, but it is a fact which we must recognize. The idea has been propagated, unfortunately, by the humane societies of the United States. One of the reasons which they give for propagating the doctrine that there is no such disease in existence is that it is so rare that they are opposed to experimenting upon animals to demonstrate the existence of such a disease.

"The fact of its existence has been demonstrated by experiments upon animals. The Pasteur treatment has been brought out by experimentation upon animals. They say they do not believe in any conclusions that have been drawn from such experimentation, and they consider it their duty to fight all opinions brought out in that way; and this idea of the presence of rabies and the necessity of measure for its control.

"Now, I will say frankly to you, that up to within the last decade I thought myself that rabies was rather rare in this country. It had not come to my attention much, and in fact I had no reason to make any investigations concerning the matter, and all this literature which the humane societies and the individuals in the medical profession had been sending out had come to my attention, and it seemed to me that they had pretty fair arguments. All at once we were confronted with rabies in the District of Columbia. A colored man died with a disease which had all the nervous phenomena of rabies, which the attending physician did not understand very well, but he thought from the symptoms that it might be rabies. But this colored man's brain was taken out and sent to the Bureau of Animal Industry in order that inoculations might be made from it. These inoculations produced rabies in rabbits. We arranged to have experimental tests made at the Bureau and from that time to the present (I think that was in 1891 or '92), we have tested all the cases that we could get hold of, and, very much to our surprise, we found that rabies existed constantly in the District of Columbia. We know that there is hardly a month in the year but that we get cases, and we are surprised at the number.

"The deaths have not been very great, because the people bitten have been advised to take the Pasteur treatment. But every now and then a person died with rabies. We have had three or four deaths within this period that have been very care-

fully established, and in addition to that there have been a great many people who have been bitten and taken the Pasteur treatment (seventy-five per cent. of the people bitten). Just this last week a man in Baltimore is going through the Pasteur treatment, having been bitten in the streets of Baltimore by a dog undoubtedly rabid.

"I consider this one of the diseases which should be looked after, not only because it affects the public health, but the financial losses from it are very great. There are other animals bitten by dogs beside human beings—horses and cattle, and in most cases the animals die. We had a case in Washington where seventeen or eighteen cows died suddenly in a mysterious manner. The Bureau of Animal Industry was asked to investigate, and after studying the symptoms we thought it wise to make inoculations of rabbits from the brains of some of the animals that died and it was thus clearly established that they had died of rabies. They were dry cows, which had been turned out in the lot and left there in the night as well as during the day, and it could not be established when, or that they had been bitten; but the fact that they had rabies virus in their brains was positive proof that they had been bitten.

"We have a great many cases reported from the West where animals died from similar symptoms, and we have found in other cases that the brains of these animals that have died would produce rabies when inoculated into other animals.

"The financial loss among the dogs is of course considerable, although in most cases, I take it, it is a good thing to have the number of dogs lessened if it can be done without danger to the community; but there are considerations besides saving the dogs which make it one of the most important for the veterinarian to bear in mind.

"Another disease which we have not heard so much about, but one which I take it is very important, is a venereal disease of horses which exists in some of the Western States and has existed for fifteen or twenty years. It has been diagnosed as *Maladie du coit*, or disease of coition, as it is termed by the French. None of our experts have been able to find the parasite of that disease in the animals affected. The symptoms and course of the disease are very nearly the same as in Europe; but there is an absence of that parasite. There has been found another parasite in the blood invariably, which seems like it, although we have not been able to reproduce the disease by inoculations with this parasite.

"In this connection, although not entirely germane to the matter under discussion, I might say that I have made arrangements to have the chief pathological expert of the Department go to Europe this summer and study the subject there, so that if we have missed something in our investigations he may be able to set us right when he returns. Whatever the disease is in the horse it has shown great persistence. For the last ten years we have been killing off the diseased animals in Nebraska and Dakota as fast as they could be discovered, but still the disease has kept up, and we have killed more animals this year than in the preceding year. I think that is due to the fact that heretofore we have not been able to find them. The fact that we are killing off the animals is something that does not inspire confidence, and the owners have driven the animals into the Indian reservation and other places where they could not be found. At any rate, that disease is more prevalent than is generally suspected. We had recently a shipment from Dakota to Michigan, which, before we learned that the animals were infected, had been scattered throughout Michigan and some parts of Ohio, and it is doubtful whether all those animals were found. We had a report the other day that the disease existed in Ohio.

"There is another disease which those who attended my lectures will remember I treated of as 'horse pox.' I have been interested to learn that it is communicable to man and produces pustules on the hands and arms of the attendants, apparently identical with the vaccine pustules.

"I deem it of great importance that the different States should have a veterinary institution of some kind which could know how to diagnose diseases like this venereal disease of horses, and to exclude it from the State; or, to take such measures for coöperation with the national authorities for its eradication as may be necessary. It is just as liable to spread as any other disease. Horses are being shipped here from the West constantly, and you are liable to encounter the disease at any time. You all know how important it is that horses should be kept free from a disease like this. It is a disease of long duration, and almost invariably terminates in death.

"Then you have tuberculosis, which is always with you. You have a commission already studying this subject, and it is recognized in most parts of the country that it deserves more vigorous attention than it has heretofore received.

"So we have in the United States a number of diseases

which are well established here, which are bound to remain for a considerable length of time; no matter how thorough the work done, they will not be entirely eradicated. Then you have the danger from imported diseases.

"Your presence here in this quarantine station must remind you that the State of New Jersey is exposed to rather more of the dangers than many other States. Here is a quarantine station erected by the Government of the United States, at which nine-tenths of the animals imported into the United States which are liable to bring in contagious diseases, are quarantined. It is a station situated inland, and the animals must be brought here a number of miles by rail. There is the danger of the contagion being scattered along the railroad, in case the animals are infected. There is the danger of the disease getting out of the quarantine station by the attendants carrying the contagion. There is a certain amount of danger always from imported animals, no matter what the station and no matter how competent the men in charge of the service. So, New Jersey has this danger, which is greater than that of most other States. Then your being at the Port of New York, where a large number of ships land at the docks on the Jersey side of the river, you are always peculiarly exposed to contagion from articles of merchandise like rags and hides, wool, etc. Most of you do not realize the enormous quantity of hides, wool, hair and such animal products that are continually being shipped to the contiguous States within a few miles of where we are to-day, and unloaded and taken in drays from a railroad station to a mill; and such shipments are continually going through your State. All these things are liable to bring contagion into your State, and you being here at the Port must necessarily be exposed more than other States.

"These things must be taken into consideration when you undertake to estimate the value of a State institution designed largely to protect public health.

"I may say there is one disease which is being discovered in some degree in different parts of the United States, which seems to be incurable, that is, anthrax (malignant pustule).

"Our importers go to the ends of the earth for hides. They bring them from the worst districts of South Africa, Asia, Australia, Madagascar and South America; wherever they can gather up their hides; and no measure which the Government has been able to enforce has proved efficacious in disinfecting these importations of hides, etc., which are so liable to carry

contagion. Every year there are coming to us reports of anthrax occurring in tanneries, and in woolen mills, among operatives who have to handle the hides and wool, and there seems to be no way to keep out the disease. It must be controlled after it comes into the State. Measures must be adopted to prevent its spread. You have got to take care of that disease when it develops, and be careful not to allow the soil to become infected. An alluvial soil is peculiarly adapted to the propagation of anthrax, where the germs can multiply in the soil and the weather conditions are such as to bring these germs to the surface; in the summer time there are liable to be outbreaks of the disease among the domestic animals, not only threatening the animals but the general health of the people. So you have here a disease that needs constant attention, and will need attention so long as the State of New Jersey is here to look after it.

"The recent occurrences in Massachusetts in stamping out the foot-and-mouth disease is an illustration of the danger to which New Jersey is constantly exposed. No one had any reason to expect an outbreak of foot-and-mouth disease in Massachusetts. The danger there was not so great, in fact, as it was in New York. The number of animals imported through the Port of Boston does not compare with the number brought through the Port of New York.

"The amount of merchandise imported through Boston does not compare with the amount brought into New York, although I haven't the figures on this subject. Certainly there is as much reason to expect an outbreak of foot-and-mouth disease in the State of New York to-day, as there was in Massachusetts six months ago. Yet all at once we were confronted with the fact that it had spread throughout the eastern part of the State, and there were a hundred or more towns infected, and it seemed almost impossible to ever stop it.

"Fortunately, in Massachusetts there was a cattle bureau which had inspectors in every town in the State, and they had established and in operation the machinery by which they could get reports of such a disease, and that machinery was utilized at the time when the danger was most imminent and it was necessary to get information—that machinery was utilized to find out where the disease existed and to what extent. Although there has been some little friction in this business of stamping out this foot-and-mouth disease, the assistance we had in stamping out that disease was invaluable at a time when we needed it most. But here in New Jersey you have no such machinery for

getting information from all parts of the State. You could not within a week hear from all parts of the State. You could not within a week hear from every township in the State because you haven't in every township in the State men who can be relied upon to make prompt reports to a central authority and whose reports would be at once investigated. I mention that as showing the great importance of having the machinery in existence, for meeting an emergency of that kind, which you, here, are peculiarly exposed to.

"I felt when I went to Massachusetts the first of last December, that I had on my hands one of the greatest tasks which I had ever been asked to handle. You all know how infectious foot-and-mouth disease is, how easily it is carried by everybody who goes to the stable, every dog on the premises, even by the birds, and by the inspectors themselves. We were getting reports of the disease there actually faster than we could send men to see whether the reports were correct or not. That is the reason we adopted such radical measures. There were very few people who had any idea when the Bureau took hold that they would kill off all the animals in the infected yards; and at first there was a disposition, even on the part of veterinarians, to say that it was not necessary, and that we were causing unnecessary loss. They thought we ought to keep the yards in quarantine and allow the animals to recover. Now, I think that that ought to show the value of having a veterinarian at the head of the work, who can estimate as accurately as it can be estimated, the danger which exists from a given situation.

"It was a very serious question to be decided there, whether the situation justified the destruction of all that property, because many of those herds were herds of thoroughbreds, animals which could never be replaced, strains of thoroughbred animals which were practically blotted out by this work.

"There were some animals worth five thousand dollars each. It was a great responsibility, to say that we should go onto these premises and require the destruction of every animal in the yard, whether it showed signs of the disease or not. The responsibility unfortunately came upon me. I estimated the danger as closely as I could from the information I could get from my inspectors and from experts who were consulted, and I decided that it was necessary in order to protect the remainder of the animals in New England, necessary to enforce the destruction of those animals, and it was done, and the disease has been stamped out. (Applause.) At least we have every reason to

believe that it has been stamped out. We slaughtered the last case that was discovered on the 9th of May, just two months ago to-day, and at this time of year it would seem that the contagion has been entirely eradicated, because if it existed it would spread so rapidly as to be almost impossible to follow it.

"Now, that is one of the great veterinary triumphs. We had trained inspectors. We had men in the field who knew how work of that character should be performed, and how the business operations should be conducted, and who were ready to go ahead with the work; and the minute I said the killing should begin they began the killing and kept it up until we got rid of the disease.

"The expense has been far less than anybody anticipated. We did not expect to get out of it for less than half a million dollars, but I think the total expenses will be not over half of that sum.

"Now, gentlemen, the question has arisen, and it confronts you, as to what you will do—what will you advocate in this State in the way of veterinary and sanitary work? You have, as I understand it here (I am not as familiar with the local situation as some of you), but you have as I understand it a tuberculosis commission, which really is the only thing which makes a specialty of looking after the diseases of animals. You also have boards of health, which I presume take action in certain cases. You have a State Experiment Station, which sometimes investigates diseases of animals, and, perhaps, other institutions. I understand the veterinary work of the State is considerably divided.

"Now, if I should give my advice, from my experience, I should say that the most essential thing in executive work of this character is to have it under the direction of one man—an executive officer who is required to bear the entire responsibility for what is done. My experience with commissions is not altogether favorable. After the Bureau of Animal Industry was established, and when we were in the midst of the eradication of pleuro-pneumonia, an effort was made to change the organization of the Bureau and to have a commission of three men. I did everything I could in opposition to that, and the proposition was, fortunately, defeated. I think it is a bad arrangement to divide responsibility. Veterinary work is executive work of the most strenuous character. It is like managing a campaign in time of war. Somebody must have authority to go ahead and say what shall be done without stopping to

consult somebody else; and somebody ought to take all the responsibility and not be able to shove it off on to the shoulders of somebody else. That is the only way you can get prompt and effective work done, in my opinion. I know there are exceptions—for instance, in the District of Columbia we have a three-headed commission which runs the District, instead of having a Governor. You have a principal executive in the United States; and, generally, where there is executive work to do, where there is an army to command, or any other executive work to do, you will find that it is done best by a single executive, and for that reason I always advise, wherever it is feasible, to have such work under a single head. Of course, if that cannot be accomplished, the next best thing is to have a commission; but I believe that it is a good move, and one for the best interests of the State, to have veterinary work brought together under the direction either of an expert or of experts who understand the diseases which it is proposed to control. I do not see how laymen, men who do not know the symptoms by which diseases are diagnosed, or do not know the manner in which they are spread, and who can never appreciate the importance of these questions, because they have not the fundamental education to enable them to do so, can undertake to control such a work. I repeat, I do not see how a layman can act intelligently on such matters. For that reason I think you are making a wise move when you ask that this work in this State shall be placed under a veterinary officer. Whether you have a Bureau in the State Board of Agriculture, or, whether you have a veterinarian as chief officer of a separate bureau, makes little difference. The point is that you should have it under veterinary supervision and veterinary direction; it seems to me that that is essential to good work.

"Therefore, I am perfectly willing to give my endorsement, with whatever influence it may carry, to the efforts of this Association to secure the establishment in this State of some sort of an institution, either an executive office or a bureau for the controlling of the diseases of animals, and incidentally for protecting the public health from such diseases.

"Now, gentlemen, I simply wish, in closing, to thank you for the kindness with which you have received me here. I wish to express my heartfelt interest in this Association and in all its efforts to build up the profession, not for making it more honorable,—it cannot be made more honorable than it is,—but for making the public appreciate and honor the veterinarian for

his work and the importance of his work to the community. Again, I beg to welcome you to this station, and in looking it over I hope you will find something to interest you and something also to commend." (Great applause.)

Inspection of the Quarantine Station.—The Chairman: "We have now arrived at a part of the programme where Dr. Pope will take charge of the meeting and conduct the members and their guests on an inspection tour of the U. S. Animal Quarantine Station. Dr. Pope will first give you a brief description of the grounds."

Dr. Pope:—"My chief has given you something of the history of the station and I believe you are expecting from me an explanation of the practical workings of the same. Before you start out on an inspection trip I will show you a blue print of the property, and explain, so that you may have an intelligent idea of the purposes of the station and the reasons for laying it out as it is. I find a great many people have a very vague idea as to what this Station really is. Many think it is a State institution, while some think it is an exhibition station for fine, imported stock, and many who come here resent our refusal to grant them permits, without limit, to go through the grounds and visit the various importations, which of course would be impracticable at a quarantine station. The station as originally purchased consisted of about 40 acres laid out as you see it on this blue print. Ten acres have recently been added to straighten this line in the rear, making the capacity of the station about fifty acres. You will find extending from the railroad a main street, 40 ft. wide, running across the property. At the centre there is a street 40 ft. wide intersecting and extending through the grounds. These streets are for the reception of new importations, while the 32 ft. lane extending around the outer boundary of the station is for driving out animals after their release. You will notice that each building is supplied with a yard which is separated from all other enclosures by a 32 ft. lane, and in this manner each importation is kept in isolation. Imported animals are inspected on the ship, transferred to a barge and passed over the river, then loaded in special cars, in which they are brought to this station and unloaded directly upon the Government property. The buildings are all supplied with running water. The Government supplies stable, yard room and water. The importer pays for transportation, feed and attendant. At this time there is very little stock on hand, viz:—90 Berkshire swine and five Kerry cattle, and this is unusual, as there are fre-

quently here several hundred fine cattle and sheep. The animals subject to quarantine are cattle, sheep, swine and all ruminants, such as goats, deer, camels, etc. The quarantine period for cattle is 60 days time dated from the time of clearance of ship on the other side. For sheep, swine and ruminants aside from cattle the period of detention is 15 days actual time at the station. You will find the station incomplete, or, rather, I should say, in an unfinished condition, but as you pass over the grounds kindly remember that it has been in use less than two years, that at the time of purchase it was a decidedly rough bit of ground and that the place is more or less littered with building material. On the hill above us we will see the water system, where there is a well 168 ft. in depth and a tank of 16,000 gallons capacity and in various places you will note that temporary structures are being torn down to make way for the substantial buildings of stone and brick. It will be a pleasure for me to answer any questions while we are in route and I have here several copies of the regulations for the importation of live stock, which anyone may have who desires."

The members and their guests then went on a tour of inspection of the grounds of the Quarantine Station.

After the return there was a clinic until 5 P. M., when the meeting adjourned. GEORGE W. POPE, *Secretary.*

NEW YORK STATE VETERINARY MEDICAL SOCIETY.

The thirteenth annual meeting will take place at the New York State Veterinary College, Ithaca, N. Y., Sept. 15 and 16. We hear from Secretary Kelly, President Law and Chairman of Arrangements Williams that the approaching meeting is to keep to the standard of the past few years or even surpass it, the programme being full to overflowing with papers upon live subjects, the clinic amply supplied with good material, and the volunteer clinicians numerous and among the best operators in the country.

While the programme has not progressed to a point where all arrangements can be said to be complete, we are enabled to announce the following:

"Rabies," by Dr. John W. Corrigan, Batavia.

"Control of Rabies," by Dr. H. D. Gill, New York City.

"Control of Glanders," by Dr. H. D. Gill, New York City.

"Tuberculosis in Swine," by Dr. H. R. Rider.

"Post-Mortem Examinations in Abattoirs," by Dr. W. N. D. Bird.

"Osteo-Porosis," by Dr. J. K. Sutterby.

"Blood of Domestic Animals," by Dr. S. H. Burnett.

"Some Observations on the Causation and Treatment of Parturient Apoplexy," by Dr. O. J. Mulvey.

"Spavin Group of Lameness," by Prof. W. L. Williams.

"Suppurating Tendinous Sheaths and Articulations," by Prof. W. L. Williams.

(Subject to be announced later), by Dr. F. Morrow.

(Subject to be announced later), by Dr. E. B. Ingalls.

"Parental Influence and Determination of Sex," by Prof. S. H. Gage.

"Diphtheria in Chickens with Special Reference to Treatment," by Prof. V. A. Moore.

"Pathological Demonstrations (Melano-Sarcoma in Horse, Tuberculosis of Liver in Dog, Lymphoma in Pig)," by Prof. V. A. Moore.

"Echinacea in Veterinary Practice," by Prof. P. A. Fish.

(Subject to be announced later), by Prof. G. S. Hopkins.

(Subject to be announced later), by Dr. Roscoe R. Bell.

Prof. W. L. Williams is devoting a great deal of time and care to the preparations for the clinic, and has selected the cases with the purpose of presenting a practical and valuable series of surgical demonstrations.

The following operations have been selected, with such additions as may be possible as the time for the meeting approaches: Arytenectomy, Drs. Gill and Williams; Castration (new method), by Dr. Gill; Poll-Evil, Cryptorchid, Quittor, Open Joints or Tendinous Sheath, Castrations (Male and Female), Operations on Young Mephitis, by Drs. Williams, Dodds, and others.

The society has held two meetings at Ithaca (1900 and 1901), and all who attended voted that they were extremely well repaid for their trip, both from a professional and pleasure point of view, and we gather from correspondence and observation that there will be this year a grand outpouring of the profession of New York and adjoining States.

SCHUYLKILL VALLEY VETERINARY ASSOCIATION.

The tenth annual meeting of this Association was held at Pottsville, June 17th. Meeting was called to order by the President at 10 A. M. Members present: Drs. G. A. Wehr, H. F.

Kauffman, F. H. McCarthy, I. C. Newhard, W. G. Huyett, D. R. Kohler, F. H. Schneider, O. G. Noack, and U. S. G. Bieber.

The minutes of the last meeting were read and approved.

President Noack then delivered the annual address as follows:

"*Gentlemen:*—It has always been my aim during the time I have had the pleasure to preside over your deliberations for the benefit and advancement of the profession to make you acquainted with the progress and wants you hear little, if anything, of through our journals on this side of the ocean. To-day I shall once more recall to you the name of the eminent savant, Prof. Von Behring, who near the end of the last century brought relief to mankind through the discovery of the diphtheria serum, and now, at the beginning of the present century, is going to bring protection for the human race against the plague which destroys annually more lives than all the other diseases together—tuberculosis. This scientist has become an important factor for veterinary medicine, as he uses the horse as a medium for the preparation of his serums, and further, that he has succeeded in immunizing cattle against tuberculosis. Hundreds of his own experiments, and also Prof. Thomassen's, at Utrecht, have confirmed this fact. The vaccination, or Jennerization, as he calls immunization, is effected in the following manner: Of an eight-year-old culture of human tubercle bacilli, which has been closely studied during this time, the vaccine is taken and tried by a temperature of about 70 degrees F., in which condition the same can easily be carried and handled without losing any of its virulence. About 0.06 grain is dissolved in a drachm of distilled water and injected into the jugular vein of the animal. Such vaccinations shall be made according to Von Behring. All ready in the third week of the animal's life, while it is most exposed to contract tuberculosis at this time, by taking as its nourishment only milk. If a strong reaction with fever sets in, one injection is sufficient; if the animal does not react, a second injection is made with a stronger dose, consisting of 0.15 grain. By transferring immunity to the human race, the great scientist will proceed in this way, that he takes the blood from the immunized cattle, which contains the anti-bacilli, of which I have given an explanation in my former address, and gives the same with the milk to infants. But before he undertakes to do this he will have removed beyond all doubt at first of danger to the child's life by experiments in the animal system. No doubt the professor's theory will be verified in a short time.

"Gentlemen, I thank you for the attention and the confidence you have shown me during my six terms as chairman of this Association, and I hope you will show the same patience to my successor, and give the same support for the best interests of the veterinary profession. Thanking you again, I wish you to remember that I have endeavored to do the best for the profession."

A number of members were proposed and elected. The Treasurer's report was approved. It showed the Association to be in a prosperous condition.

The following officers were elected by acclamation for the ensuing year:

President—Dr. F. H. McCarthy, Pottsville.

Vice-President—Dr. G. A. Wehr, Denver.

Treasurer—Dr. D. R. Kohler, Boyertown.

Recording Secretary—Dr. U. S. G. Bieber, Kutztown.

Corresponding Secretary—Dr. W. G. Huyett, Wernersville.

Board of Trustees—Dr. W. S. Longacre, Mantz; Dr. I. C. Newhard, Ashland, and Dr. F. H. Schneider, Philadelphia.

Besides the regular routine business transacted, a report was made by Dr. F. H. Schneider, Philadelphia, who represented the Schuylkill Valley Veterinary Association as a delegate to the Keystone Veterinary Association, which held its meeting at Philadelphia. A motion was made and carried that all delinquent members who are in arrears of six dollars and over be expelled from membership of this Association, as dishonorable to the profession. Hence Drs. F. J. Faughman, W. H. Moyer, M. S. Brackvell and Elias Snyder are no longer members.

Various papers were read and discussed. "Purpura Hæmorrhagica*" was the subject of an essay delivered by Dr. Bieber, of Kutztown. A motion was made and carried to adjourn.

W. G. HUYETT, *Corresponding Secretary.*

TEXAS VETERINARY MEDICAL ASSOCIATION.

A meeting of the Association was held at College Station, Texas, on July 8th, 1903, commencing at 11 A. M.

The meeting place was Dr. Francis' commodious office in the Veterinary Department of the State Agricultural and Mechanical College.

The following veterinarians of the State were in attendance: M. Francis, College Station; A. E. Flowers, Dallas; W.

* Published elsewhere in this number of the REVIEW.

A. Knight, Houston; L. D. Le Gear, Austin; Newton G. Le Gear, Waco; W. G. Langley, Dallas; Irvin Owens, and H. D. Paxson, Fort Worth.

An all-day session was held.

During the morning the Constitution was completed and adopted and seven new members elected. They are: Thos. A. Bray, El Paso; G. R. Flowers, Dallas; L. D. Le Gear, Austin; W. G. Langley, Dallas; Irvin Owens and Adolph Rush, Fort Worth; L. E. Warner, Dallas.

In the afternoon a literary entertainment was provided. Dr. W. A. Knight read a paper entitled "Wasting Diseases Caused by Animal Parasites," * which treated upon outbreaks which he had observed in the State, and attracted much interest, being discussed quite freely.

Dr. Newton G. Le Gear read a paper, the title of which was "Pruriginous Dermatitis, or Summer Sores," which was heard with marked attention and brought out expressions from all present in the discussion which followed.

After the discussion of the papers was closed several hours were occupied in the discussion of cases occurring in practice, and the exchange of experiences.

Dr. L. D. Le Gear asked the opinion of the members on an outbreak of disease in dogs in which the predominant symptoms were dropping of the lower jaw and paralysis of the throat. It was generally agreed that the disease was "dumb" rabies. Dr. A. E. Flowers in discussing it made some very interesting remarks upon the disease as he had observed it.

One of the interesting events of the day was an inspection of the Veterinary Department of the Agricultural and Mechanical College under the escort of the President of the Association, Dr. M. Francis, who is a member of the faculty of the college. Dr. Francis was repeatedly complimented upon the fine equipment of this department, which was due greatly to his patient efforts.

The members were guests of Dr. Francis at a late luncheon, after which they departed for home on the midnight train.

H. D. PAXSON, *Secretary.*

PASSAIC COUNTY VETERINARY MEDICAL ASSOCIATION.

The regular monthly meeting was held at 169 Paterson Street, Paterson, N. J., July 7th, 1903, with Dr. William Her-

* Will be published in an early issue of the REVIEW.

bert Lowe, President, in the chair. The meeting was called to order at 8.30 P. M., and on roll-call the following members answered to their names: Drs. T. J. Cooper, Wm. H. H. Doty, M. A. Pierce, John H. Degraw, W. H. Lowe, Paterson; William J. Fredericks, Delawanna; William Herbert Lowe, Paterson. Dr. J. B. Hopper, of Ridgewood, Bergen County, was also present.

The minutes of the May and June meetings were read and duly approved.

Treasurer M. A. Pierce made his annual report showing that he had received $44 during the year, and had disbursed $32.25, leaving a balance of $11.75 in the treasury. The Treasurer's report was examined and duly approved.

Dr. Hopper, Chairman of the Committee of Arrangements of the Veterinary Medical Association of New Jersey for the Athenia meeting, July 9th, was introduced by the President. Dr. Hopper told of a number of interesting features of the forthcoming State meeting and expressed the hope that he would see every local practitioner in attendance. He made request of members to send any good subjects they might have in their practice, suitable for clinical purposes, to Athenia, Thursday morning.

It being the annual meeting of the Association election of officers was taken up and resulted as follows:

President—Dr. William Herbert Lowe.
First Vice-President—Dr. David Machan.
Second Vice-President—Dr. Wm. H. H. Doty.
Secretary—Dr. William J. Fredericks.
Treasurer—Dr. M. A. Pierce.

Dr. J. B. Hopper was then elected an associate member of the Association.

It was the sense of the meeting that the Association dispense with further meetings during the hot months, and on motion of Dr. Pierce the Association adjourned until the first Tuesday evening in October. WILLIAM J. FREDERICKS, *Secretary.*

MASSACHUSETTS VETERINARY ASSOCIATION.

The annual outing of the Massachusetts Veterinary Association was held Wednesday, June 24th, 1903, down Boston Harbor, on the tugboat *Cormorant*, of the Boston Street Department. The boat was furnished through the courtesy of Supt. Donovan.

The weather was rather inclement and sea rough, and

many members increased their capacity for the dinner which was to follow. Dinner was served at Galloupe's Island and enjoyed by everybody. There were seventeen members and several guests present. Everybody present enjoyed the sail, returning to Boston about 8 P. M.

A vote of thanks was tendered to Supt. Donovan for his kindness in furnishing the boat.

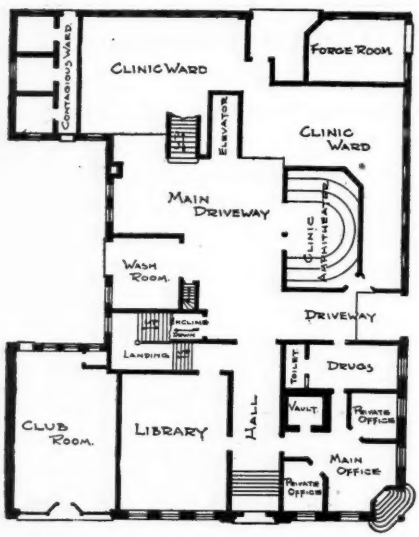
The committee of arrangements were Drs. Burr, Lee and Howard. F. J. BABBITT, M. D. V., *Secretary.*

THE KANSAS CITY VETERINARY COLLEGE.

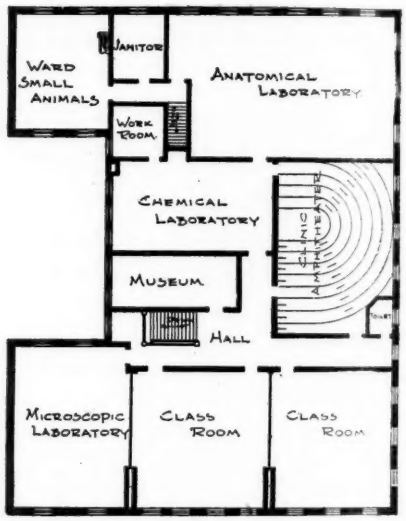
We are enabled to present this month some very fine zinc etchings showing an exterior view and two floor plans of the new college building under construction by the Kansas City Veterinary College, which we are informed by Dean Stewart will be ready for occupancy about the middle of September. It will be built of brick, having a frontage of 96 feet on Fifteenth Street,

and 120 feet on Lydia Avenue. This is an ideal location, on a broad thoroughfare and adjacent to a beautiful boulevard and public park. The grounds, structure and equipment represent an outlay of about $50,000, which seems justified when one considers that Kansas City is in the midst of a large and rapidly developing agricultural country, which is demanding the service of competent veterinarians. This large area will give employment to several thousand competent veterinarians, and for many years to come the demand will exceed the supply.

This college was organized in 1891 on the two-year basis, and had three students enrolled during its first session. It was continued as a two-year institution with a gradually increasing attendance up to 1896, when it passed into the hands of the present management and the standard was raised to a three-year graded course. During the first session under the new conditions there were but ten students in attendance. During the last session there were 133 enrolled. The faculty has always



FIRST FLOOR PLAN



SECOND FLOOR PLAN

held that a high standard of citizenship should be the compliment of a high standard of professional training, and to the inculcation of this principle more than to any other is the universal loyalty and support of its alumnæ accredited.

We very heartily congratulate Dean Stewart and his associates upon this substantial evidence of the successful status of their institution, and feel confident that with their increased facilities, both in equipment and faculty, that they will continue to have increasing classes.

The officers of the college are as follows: President, Robert C. Moore, D. V. S.; Vice-Presidents, Benjamin F. Kaupp, D. V. S., and Henry C. Babcock, V. S., M. D.; Secretary and Treasurer, Sesco Stewart, M. D., D. V. M. These officers with W. Ross Cooper, D. V. M., Frank F. Brown, D. V. S., and James A. McLane, M. D., LL. B., constitute the directory.

NEWS AND ITEMS.

DR. T. EARLE BUDD, of Orange, N. J., officiated as veterinary inspector at the recent Atlantic City Horse Show.

DRS. E. M. NIGHBERT and R. Fred Eagle, employees in the B. A. I., have recently been transferred from Kansas City to St. Joseph, Mo.

DR. RUDOLPH FREDERICK MEINERS, veterinarian, Union Hill, N. J., was married June 24th to Miss Alice Blanche Seigle, of Boston, Mass.

MORE than 8,000 horses started in trotting and pacing races in the United States in 1902. Races took place over more than 800 tracks and at 1,070 meetings.

PROF. S. SISSON, formerly of the chair of veterinary medicine at the Kansas Agricultural College, has been appointed to succeed Dr. Paul Fischer as professor in the Veterinary Department of the Ohio College at Columbus.

THE cows in Belgium wear earrings. This is in accordance with law, which decrees that every animal of the bovine species, when it has attained the age of three months, must have in its ear a ring, to which is attached a metal tag bearing a number. The object is to preserve an exact record of the number of animals raised each year.

HARRY OLVER, F. R. C. V. S., of Trescoe, Tamworth, England, died May 19, after a brief illness from pneumonia contracted while watching at the sick bed of his son. He was a man of considerable prominence, having been a member of the Council of Trescoe and Mayor for two terms. He was also an examiner for the Royal College.

E. PARIS WHEELER, a veterinary surgeon of Maysville, Ky., committed suicide at the College Hill Sanitarium, Cincinnati, Ohio, July 16, by shooting himself in the mouth with a 32-calibre revolver. The deceased was 45 years old. He squandered a fortune of $40,000, having traveled all over the world. He was admitted to the hospital two weeks prior to the tragedy, having become mentally unbalanced. He was of good family, and it is said that he was a bright practitioner.

DR. R. C. MOORE, of Kansas City, was called in May to western Texas to direct the spaying of a large number of Hereford heifers on the ranches of Swenson Bros.

NEW MEAT INSPECTORS.—The following are some of the recent appointments in the meat inspection division of the B. A. I.: Dr. A. N. Reber, of Sabetha, Kans., stationed at E.

St. Louis, Ill.; Drs. A. T. Coleman, M. C. Lint, Chas. F. Pearson and Laomar West, of Kansas City, stationed at Kansas City; Dr. Irvin Owens, of Jackson, Miss., and Dr. Adolph Ruth, of Kansas City, stationed at Ft. Worth, Texas.

DR. WALTER SORRELL, of Lafayette, Ala., has accepted an appointment as veterinary inspector in the Philippine Civil Service at a salary of $1600 per annum, and sailed from San Francisco on July 15th.

STEWARD STOCKMAN, M. R. C. V. S., has been appointed chief of the Division of Veterinary Science of the Transvaal, South Africa. He was formerly professor of pathology at the Edinburgh Veterinary College.

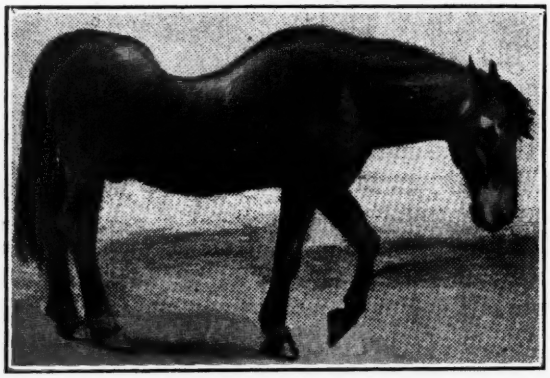
COLORADO FORMS A STATE ASSOCIATION.—The Board of Veterinary Examiners of Colorado met at Denver, July 15, and examined applicants for licenses under the recent law. After their work was over a State Association was organized with twenty-three charter members. Dr. M. J. Woodliffe, M. D. C., 1324 South 15th Street, Denver, is the Secretary-Treasurer, and he remarks in a letter to the REVIEW that he hopes the time is close at hand when none but qualified veterinarians will be practicing in the State.

GUAIACOL; ITS THERAPEUTIC APPLICATION IN VETERINARY PRACTICE.—Guaiacol is a derivative of Beechwood creosote and is present in from 60 to 90 per cent. It is a colorless, aromatic, limpid liquid, very soluble in alcohol and ether; only feebly soluble in water—1 in 200. In human practice it has been and is still being much used in the treatment of tuberculosis. It is applied locally either pure or diluted with alcohol in neuralgia, to the abdominal regions in typhoid fever, also topically in orchitis, and has been found useful in diphtheria. It is an antipyretic, antiseptic, local anodyne, a stimulator of the appetite, and has limited diuretic action. The dose for the horse is one to two drachms. In veterinary practice I particularly recommend its use in acute and chronic pneumonia, bronchitis, fœtid bronchitis, chronic coughs, chronic laryngitis and œdema of the glottis. In acute pneumonia and bronchitis, aside from the local application, I prescribe: ℞ Guaiacoli (Mercks), ʒ jss; spts. vini rectif., qs. ad ʒ xij. M. et sig.—One ounce in five or six ounces of water every three hours. In the majority of cases nothing else is required, the above carrying the case to a successful termination in an average of two days less time than is usually required; the animal will rarely cough, if he does it is only very mild, this alone is a valuable feature, as

there is nothing so bad for a cough as—coughing. The act of coughing naturally irritates the throat, bronchial tubes, and lung tissue. The temperature usually reaches the normal in about five days in average cases and seven days in very severe cases. Occasionally, perhaps in one case out of twenty-five, the temperature will go down to 101¼ degrees F. and there stop; this is due to the existence of unabsorbed inflammatory exudate and calls for an expectorant. When this occurs I stop the administration of guaiacol, as it is no longer required, and place the patient usually on two or three drachm doses of ammonium chloride in solution, every three to four hours. As soon as the temperature is normal, a general tonic is prescribed. For chronic coughs, where a stimulant is naturally not needed, I prescribe: ℞ Guaiacol (Mercks), ʒ jss-ʒ ij; mucil. acaciæ qs. ad ʒ xij-ʒ xxiv. M. et sig. One ounce three or four times daily. This drug has given me the greatest satisfaction in the treatment of stubborn and chronic coughs of various characters. In one instance in particular it cured a very severe cough of two years' standing, for which I had tried nearly everything used for that purpose, and this it did in a few days; and though six or eight months have passed, the cough has not returned and the horse has gained in flesh. In œdema glottitis the action of guaiacol is truly magical, a broad statement I admit, but bear the drug in mind, try it as I advise and test for yourself. For this ailment the in-contact effects are desirable, so I order that a drachm of guaiacol be mixed thoroughly with an ounce of water at the time of administration; such a dose given with a syringe will almost invariably cause relief in from two to ten minutes, even where the animal is almost suffocating and the tracheotomy tube seems absolutely necessary. Then subsequent doses are to be administered according to indications; perhaps the patient begins to choke up again in an hour, if so, give another dose, then another in say two hours, then until the danger is past every three hours. In these cases a sharp counter irritant is of value in preventing the return of the œdema. As aconite is termed the "therapeutic lancet" I would typify guaiacol as the "medical tracheotomy tube, so quickly does it open an œdematous throat. In that peculiar form of influenza prevalent last year, laryngeal influenza, I called it, I had most gratifying results with the above mentioned drug. Did not have a persistent cough, that continued for weeks as others have complained of. I have always used Merck's guaiacol, as from the peculiar nature of the

drug, the production of a pure article is difficult, and if contaminated with other products of creosote, its action may be far different from what is desired. In conclusion, I wish to state emphatically, that I have not in the least overrated the value of the drug, and if it were not for the fact, that such usually proves tiresome, I could relate case after case of various ailments mentioned (excepting chronic pneumonia, which is naturally rare), where the drug has proved of value greater than any other line of treatment with which I am conversant. Try it and be convinced.—(*E. L. Quitman, M. D. C., in Chicago Veterinary College Quarterly Bulletin.*)

A FIFTY-THREE (53) YEAR-OLD HORSE.—As a contribution to the statistics which Dr. Liautard has been reporting from the European veterinary press as to the longevity of horses, we copy the following article and photo from the June number of the *Horse-Shoers' Journal*, published at Detroit, Mich., by the Master Horse-Shoers' National Protective Association of America, of which Mr. J. C. Buckley is the editor. It bears every evidence of sincerity, and as the subject will be exhibited at the St. Louis Exposition next year, should he live until then, it bears additional interest, as it is more than likely that the American Veterinary Medical Association will convene in that city for its forty-first annual meeting, when the members may have an opportunity to behold this wonderful animal. In the meantime, we would be obliged if any of our Michigan readers who may have knowledge of the subject of this sketch will communicate with the REVIEW as to whether the statements as to his age are authentic. "Blucher is the name of probably the oldest horse of which there is a record of now being alive and active. He is fifty-three years old and is owned by nobody, but roams around the city of Niles, Mich., where everybody knows him and gives him shelter whenever Blucher asks for it in his own way. The old horse, according to chroniclers, was foaled in 1850. He was



owned by an old negro named Williams who lived about seven miles south of Niles on a twenty acre patch of ground. His owner was a hermit, he associated with nobody, he and Blucher were close companions, each was a friend, philosopher and guide to the other. When Williams died fifteen years ago relatives came from South Carolina and claimed whatever property he left behind him, but poor old Blucher was abandoned and he has since been roaming aimlessly about the country where he has a host of friends, and is never permitted to want either shelter or food. Blucher is recognized as probably the homliest horse that the eye of man has set on and he is such an oddity both in regard to his history and his appearance that it is determined by the citizens of Niles that he shall be shown at the World's Fair in St. Louis, 1904. Everybody about Niles knows Blucher and all livery men in the place, without exception, have an empty stall where the old horse can find a resting place for a week or two, as his whims will have it, and while he is in his temporary boarding place he never wants for as good food as the best of his equine companions of the stable enjoys. It is told of him that he will leave the town in the springtime to return again only when the blasts of winter begins to strike him, then he will go from stable to stable and never a hand is raised to turn him away. Blucher has not been in harness for fifteen years, since the death of his old master. He travels around the country, sometimes visiting neighboring towns and is seen occasionally on the streets of South Bend, Benton Harbor and St. Joseph. He enjoys excellent health and shows it by the manner in which he will get away with a good feed of oats. He is pronounced as solid as a bell and considering his years, right active on his feet. Every year on the anniversary of the death of his old master he will visit the habitation where Williams lived and died and spend a few days, leaving it to return again the same time one year after. This has been his custom for fifteen years. He will allow no one whom he knows if carrying either halter or bridle to approach him; any advance by a person who has a piece of harness is a signal for Blucher to give a few snorts and away he goes with the activity of a two-year-old. There is a little spring in the cabin on Williams' place which feeds a nearby pond, Blucher bathes in the waters of this pond, and it is said that this provides for the old horse a perennial youth. If the old horse lives another year he will be seen in the St. Louis Fair providing he can be induced to accept the use of a halter to lead him to the train."

PUBLISHERS' DEPARTMENT.

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WE would call the attention of REVIEW readers to a neat, instructive and interesting little Veterinary Pamphlet, which has been recently issued by "The Denver Chemical Mfg. Co.," covering the indications for "Antiphlogistine" in veterinary practice; with excellent illustrations, picturing its application to the various domesticated animals. The scientific basis of the use of Antiphlogistine is explained in the fact that it is a medium by which the physical principle of osmosis and dialysis can be utilized to meet and scientifically counteract the various abnormal conditions common to every degree of inflammation. Physiological data is furnished in this little pamphlet, showing upon what the therapeutic action of Antiphlogistine is based, which makes very interesting and instructive reading. Its advantages over other methods of treatment are next dealt with; ten being claimed and qualified. Next its peculiarities are taken up. Then a description of the form in which it is put up, with the prices. Following this a reprint of an "Editorial Comment" from the AMERICAN VETERINARY REVIEW, and then a series of the illustrations referred to above, with a description of the indications for its use, in each animal illustrated. The whole is bound in a neat and decidedly attractive little cover; and we advise every REVIEW reader who has not already received one, to write "The Denver Chemical Mfg. Co." 57 Laight Street, New York, asking that one be mailed them.

WE would call the attention of our advertisers to the date on which matter for advertisements should be received to insure their insertion in the following issue. A little notice is permanently printed on the front cover page, immediately below the "Contents," to the effect that MANUSCRIPT AND COPY FOR INSERTION SHOULD BE RECEIVED BY THE 20TH OF THE PRECEDING MONTH TO INSURE INSERTION IN THE NEXT MONTH'S NUMBER. That this little notice is frequently overlooked, is evidenced by the fact that copy for advertisements, and "changes" reach us nearly every month long after the REVIEW is in press; sometimes when it is actually in the mail, with the request that said copy appear in the next issue; and it is a source of disappointment, to have to reply that they are too late, and will have to lay over until the next month. So we would urge that, new matter and changes, reach us not later than the 20th, and before that date when possible.

PRACTICE FOR SALE

In a town with a population of about seven thousand, no opposition, good surrounding country, located in Western Massachusetts. Will be sold very cheap for cash, if arrangements can be made at once. S. F. E., care of AM. VET. REVIEW, 509 W. 152d St., New York.